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Vetschera, R.

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THE IMPACTS OF EDUCATION:
AN EMPIRICAL DYNAMIC ANALYSIS

Rudolf Vetschera

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INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS
A-2361 Laxenburg, Austria

FOREWORD

This paper is one of the results of exploratory research on the impacts of education performed in the System and Decision Sciences Area during 1981 and 1982. A major reason for this study was the notion that the present period of demographic and economic transition is also a period of educational transition, and that it might be interesting to examine the interactions and possible causal relationships between these various forms of transition.

In this paper, Rudolf Vetschera examines the effects of education on population growth, and attempts to identify possible dynamic relationships between education and fertility by empirical methods.

ANDRZEJ WIERZBICKI
Chairman
System and Decision Sciences

THE IMPACTS OF EDUCATION: AN EMPIRICAL DYNAMIC ANALYSIS

1. INTRODUCTION

The possible impacts of education on other socio-economic variables have been studied both empirically and theoretically in great depth. Adding another paper to the already abundant literature therefore requires a specific motivation.

The present paper is one of the results of exploratory research performed at IIASA in 1981 and 1982 (cf. Sanderson and Wierzbicki, 1983). A major reason for starting this research was the notion that the present period of global transition as measured by demographic and economic indicators is also a period of educational transition. It might therefore be worthwhile to examine the interactions and possibly identify causal relationships between these forms of transition. In contrast to most of the existing (especially the empirically oriented) literature, our research is directed at the dynamic, rather than the static, relations between the variables involved. As the dynamics of such processes may evolve over several decades, the analysis must be performed with a broad historical perspective. Our analysis will be carried out at the level of countries, so that any cultural factors influencing the processes may be identified by comparing the results for different countries.

One of the most prominent effects of education identified in the literature is that on population growth. (For a comprehensive review of the possible effects of education in this area, see Sanderson, 1983). The present paper is an attempt to identify possible dynamic relationships between education and fertility by empirical methods. Section 2 presents the mathematical model used for the estimations, the estimation technique and the tests that may be applied to the model. In Section 3, we describe the estimation experiments that were performed; Section 4 discusses the results of these experiments, some of which are tabulated in Appendix B. Our main conclusions and some topics for future research are summarized in Section 5. Appendix A describes the computer software that was developed for this study.

2. THE MATHEMATICAL MODEL, ESTIMATION TECHNIQUE AND TESTS

Our problem is to identify a dynamic relationship between an independent input variable (education) and a dependent output variable (fertility). The output does not depend deterministically on the input but is randomly disturbed. As we are considering a dynamic process, the relation will not be restricted to contemporaneous values of the variables but will involve lags in both variables as well as in the disturbance term. A convenient way of describing such a system is as a system of linear filters; this is done in the following subsection.

2.1 Basic Definitions for the Linear Filter System

The linear system under consideration is assumed to have the following structure: an input signal is transformed into an output signal via a linear filter. This output signal, however, is not directly observable but is disturbed by a colored noise process. This noise process is derived from a white noise process via a filter similar to that used for the input signal. The whole system is depicted in Figure 1.

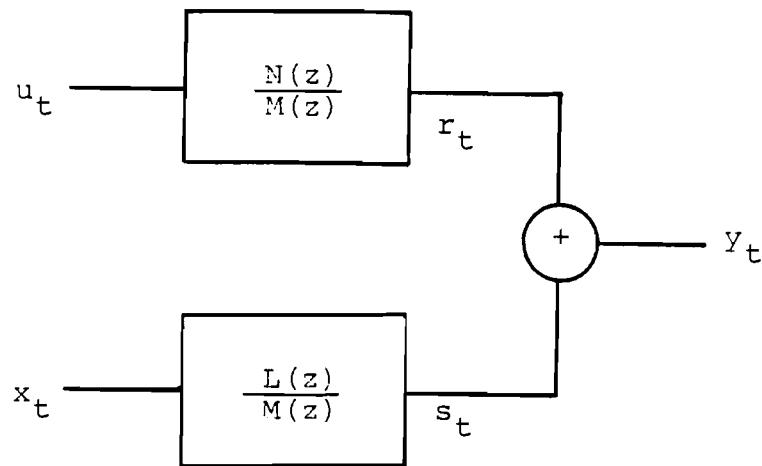


Figure 1. The linear filter system.

We define

- x_t - input signal at time t
- y_t - observed output at time t
- u_t - white noise signal at time t

The filters are described by three lag polynomials of order k:

$$\begin{aligned}
 N(z) &= a_0 z_t + a_1 z_{t-1} + \dots + a_k z_{t-k} \\
 M(z) &= b_0 z_t + b_1 z_{t-1} + \dots + b_k z_{t-k} \\
 L(z) &= c_0 z_t + c_1 z_{t-1} + \dots + c_k z_{t-k}
 \end{aligned} \tag{1}$$

The a_i , b_i and c_i will be referred to as the parameters of the process, while k is the order of the process. The two filters and the composition of y can now be described by the following equations:

$$M(z)r = N(z)u \tag{2}$$

$$M(z)s = L(z)x \tag{3}$$

$$y_t = r_t + s_t \tag{4}$$

where r and s are intermediate signals as shown in Figure 1. Equations (2)-(4) can be combined to yield

$$M(z)y = N(z)u + L(z)x \quad (5)$$

or

$$\begin{aligned} b_0 y_t + b_1 y_{t-1} + \dots + b_k y_{t-k} &= c_0 x_t + c_1 x_{t-1} + \dots + c_k x_{t-k} \\ &\quad + a_0 u_t + a_1 u_{t-1} + \dots + a_k u_{t-k} \end{aligned}$$

which describes the whole system of filters.

The system is invariant with respect to multiplication of the parameter vector by a scalar, so we assume without loss of generality that

$$b_0 = 1 \quad (6a)$$

As the residuals are not directly observable, we may further normalize the definition by setting

$$a_0 = 1 \quad (6b)$$

A modified form of equation (5) may be used to generate the output signal. Given a parameter vector (a, b, c) , an initial condition $(y_{t-1}, y_{t-2}, \dots, y_{t-k})$ and contemporaneous input and noise signals x_t and u_t , the output signal y_t can be computed as

$$y_t = \frac{1}{b_0} \left(\sum_{i=0}^k a_i u_{t-i} + \sum_{i=0}^k c_i x_{t-i} - \sum_{i=1}^k b_i y_{t-i} \right) \quad (7)$$

Similarly, the residuals can be reconstructed from the output and input signals using

$$u_t = \sum_{i=0}^k b_i y_{t-i} - \sum_{i=0}^k c_i x_{t-i} - \sum_{i=1}^k a_i u_{t-i} \quad (8)$$

However, equation (8) cannot be used to compute the first k residuals. We therefore define a vector u_0 containing the residuals (u_1, u_2, \dots, u_k) and consider u_0 to be a part of the parameter vector describing the system.

2.2 Estimation of Parameters

The problem of parameter estimation may be stated as follows: given a time path for the input and output signals, find a parameter vector (a, b, c, u_0) that explains this input-output behavior as accurately as possible.

Equation (8) may be used to calculate a time path for the residual process that is uniquely determined by the parameter vector. To define a "good" parameter set, we may therefore describe the optimality of the parameters in terms of the associated residual vector. An obvious measure of parameter quality is the variance of the residual process. An optimal set of parameters is thus defined as one that minimizes $\text{var}(u_t)$ for $t > k$. The optimization process used here to find such a parameter vector employs the conjugate gradient method as implemented in routine ZXCGR of the IMSL mathematical software library. To use the conjugate gradient method, we have to determine the gradient of $\text{var}(u)$ with respect to the parameters.

Computation of the gradient can be simplified by noting that

$$\frac{\partial \text{var}(u)}{\partial p} = \sum_{t=1}^T \frac{\partial \text{var}(u)}{\partial u_t} \cdot \frac{\partial u_t}{\partial p} \quad (9)$$

where p is any of the parameters. The first factor on the right-hand side follows directly from the definition of $\text{var}(u)$ for discrete u 's:

$$\begin{aligned} \text{var}(u) &= \frac{1}{T} \left[\sum_{t=1}^T u_t^2 - \frac{1}{T} \left(\sum_{t=1}^T u_t \right)^2 \right] \\ \frac{\partial \text{var}(u)}{\partial u_t} &= \frac{1}{T} \left[2u_t - \frac{2}{T} \left(\sum_{t=1}^T u_t \right) \right] \end{aligned} \quad (10)$$

For the second factor, we have to distinguish between $t \leq k$ and $t > k$, as the first k residuals are themselves elements of the parameter vector. Their derivatives are therefore 1 with respect to themselves and 0 with respect to all other parameters. For $t > k$, the derivatives may be obtained from equation (8) as follows:

$$\frac{\partial u_t}{\partial a_j} = - \sum_{i \neq j} a_i \frac{\partial u_{t-i}}{\partial a_j} - u_{t-j} \quad (11)$$

$$\frac{\partial u_t}{\partial b_j} = y_{t-j} - \sum_{i=1}^k a_i \frac{\partial u_{t-i}}{\partial b_j} \quad (12)$$

$$\frac{\partial u_t}{\partial c_j} = - x_{t-j} - \sum_{i=1}^k a_i \frac{\partial u_{t-i}}{\partial c_j} \quad (13)$$

$$\frac{\partial u_t}{\partial u_0} = - \sum_{i=1}^k a_i \frac{\partial u_{t-i}}{\partial u_0} \quad (14)$$

All derivatives of u_t for $t > k$ depend on the derivatives of u_t for $\tau < t$. Once the derivatives of the u_t ($t=1, 2, \dots, k$) have been computed, we can compute the other derivatives in a sequential fashion.

2.3 Statistical Tests

Our main aim in this study is to determine and possibly quantify the influence of education on fertility. Before we can reach any conclusions, we will have to ensure that our model provides an adequate representation of the processes involved. We will therefore perform two kinds of tests:

- (a) Tests that measure how precisely the actual behavior of variables is explained by the model.
- (b) Tests that quantify the influence of the input signal on the output signal in relation to the influence of past output levels and random effects.

The first group of tests may be divided further into tests that check if the basic assumptions of the model are fulfilled and tests that measure how well the model fits the data.

2.3.1 Basic assumptions of the model

According to the model described in Section 1, the residuals u_t should be generated by a white noise process. One way to test the validity of this assumption is to generate a residual vector associated with the fitted parameter vector using equation (8). This vector can be tested against a white noise process in the usual way, using measures such as the autocorrelation function and the partial autocorrelation function. Practical application of this method was however not possible in most cases as the number of observations available was insufficient.

2.3.2 Overall fit of the model

The overall fit of a model is usually measured by comparing the output generated by the model with the actual behavior of the output variable. In our model, the generation of an output signal requires the specification not only of an input signal, but also of a residual vector and a lagged output signal. Therefore, two questions have to be answered before an output signal can be simulated:

- (a) Which residual signal should be used?
- (b) Which lagged output values should be used?

As stated above, a residual vector cannot be observed directly. One possible way to reconstruct such a vector is to use equation (8) in conjunction with a given set of parameters. If the resulting residual vector is then fed back into the simulation run, the output signal produced will necessarily be that used in generating the residuals. An analysis of the fit of the model based on a comparison of generated and observed output signals can therefore not be performed with such a residual vector.

Another common way of analyzing the fit of a model is to simulate the actual use of the model in prediction. In this case, the expected value ($\bar{0}$) of the residuals is used for all periods. This is the approach taken in our analysis.

In the literature (Christ, 1975; Fair, 1974), simulations are divided into two classes according to the type of lagged endogenous variables used. In an *ex ante* simulation, the values generated in the simulation of previous periods are used. In an *ex post* simulation, the actual values of the output signals are used. In the present study, the relative ranking of various alternatives was almost always the same for both types of simulations, so only the *ex post* values will be presented here.

Each simulation run with the model yields a vector of estimated output values \hat{y}_t . For each period, we can define the prediction error as

$$d_t = \hat{y}_t - y_t \quad (15)$$

These errors may be aggregated by several methods. Two of the most widely used aggregate measures are the root-mean-square error and the mean absolute deviation. The root-mean-square error (RMSE) is defined as

$$\text{RMSE} = \sqrt{\frac{1}{T} \sum_{t=0}^T d_t^2} \quad (16)$$

The mean absolute deviation (MAD) is defined as

$$\text{MAD} = \frac{1}{T} \sum_{t=0}^T |d_t| \quad (17)$$

The root-mean-square error will be used in our discussion as again both measures yield an identical ranking of alternatives.

2.3.3 Tests on parameters

The basic model of equation (5) is estimated using a sample of T observations. As k lagged values are used in the model, the first observation that actually enters the estimation process is that for period $k+1$. The whole model for periods $t=k+1$ to T may be written in matrix notation as follows:

$$\begin{bmatrix} y_{k+1} & \dots & y_1 \\ \vdots & \ddots & \vdots \\ \vdots & \dots & \vdots \\ \vdots & \dots & \vdots \\ y_T & \dots & y_{T-k} \end{bmatrix} \begin{bmatrix} 1 \\ b_1 \\ \vdots \\ \vdots \\ b_k \end{bmatrix} = \begin{bmatrix} x_{k+1} & \dots & x_1 \\ \vdots & \ddots & \vdots \\ \vdots & \dots & \vdots \\ \vdots & \dots & \vdots \\ x_T & \dots & x_{T-k} \end{bmatrix} \begin{bmatrix} c_0 \\ c_1 \\ \vdots \\ \vdots \\ c_k \end{bmatrix} + \begin{bmatrix} u_{k+1} & \dots & u_1 \\ \vdots & \ddots & \vdots \\ \vdots & \dots & \vdots \\ \vdots & \dots & \vdots \\ u_T & \dots & u_{T-k} \end{bmatrix} \begin{bmatrix} 1 \\ a_1 \\ \vdots \\ \vdots \\ a_k \end{bmatrix} \quad (18)$$

If we move the lagged output values to the right-hand side of (18), we obtain

$$\begin{bmatrix} y_{k+1} \\ \vdots \\ y_T \end{bmatrix} = \begin{bmatrix} y_k & \dots & y_1 & x_{k+1} & \dots & x_1 \\ \vdots & \ddots & \vdots & \vdots & \ddots & \vdots \\ \vdots & \dots & \vdots & \vdots & \dots & \vdots \\ \vdots & \dots & \vdots & \vdots & \dots & \vdots \\ y_{T-1} & \dots & y_{T-k} & x_T & \dots & x_{T-k} \end{bmatrix} \begin{bmatrix} b_1 \\ \vdots \\ b_k \\ c_0 \\ \vdots \\ c_k \end{bmatrix} + \begin{bmatrix} u_{k+1} & \dots & u_1 \\ \vdots & \ddots & \vdots \\ \vdots & \dots & \vdots \\ \vdots & \dots & \vdots \\ u_T & \dots & u_{T-k} \end{bmatrix} \begin{bmatrix} 1 \\ a_1 \\ \vdots \\ \vdots \\ a_k \end{bmatrix} \quad (19)$$

or, more compactly

$$y(t) = y^{(1)}B + XC + VA \quad (20)$$

where A, B, C are parameter vectors, X is a matrix of input signal values arranged as above, and V is a matrix of residual values in a similar arrangement. $y^{(t)}$ is the vector of contemporaneous output values and $y^{(1)}$ the matrix of lagged output values used in each period.

The structure of this model is very similar to that of a standard linear regression model except that the combined residual vector VA is autocorrelated. To obtain a model with uncorrelated parameters, we use a procedure similar to the ULS estimation technique (cf. Johnston, 1972, p. 208). First we split the product VA into

$$\begin{bmatrix}
 1 & 0 & \dots & & & & 0 \\
 a_1 & 1 & 0 & \dots & & & 0 \\
 a_2 & a_1 & 1 & 0 & \dots & & 0 \\
 \dots & \dots & \dots & \dots & \dots & & \dots \\
 a_k & a_{k-1} & a_{k-2} & \dots & a_1 & 1 & 0 & 0 & \dots & 0 \\
 0 & a_k & a_{k-1} & \dots & a_2 & a_1 & 1 & 0 & \dots & 0 \\
 \dots & \dots \\
 0 & \dots & 0 & a_k & a_{k-1} & \dots & a_1 & 1
 \end{bmatrix} + \begin{bmatrix}
 u_{k+1} \\
 \vdots \\
 u_T
 \end{bmatrix} + \begin{bmatrix}
 \sum_{i=1}^k a_i u_i^0 \\
 \sum_{i=1}^{k-1} a_i u_i^0 \\
 \vdots \\
 a_k u_k^0 \\
 0 \\
 \vdots \\
 0
 \end{bmatrix} \quad (21)$$

This formulation also clearly distinguishes between the actual stochastic residual vector $U = (u_{k+1}, \dots, u_T)^T$ and the vector $u^0 = (u_1, \dots, u_k)^T$ that has already been defined as one of the parameters to be estimated.

The whole model now becomes

$$Y^{(t)} = Y^{(1)}B + XC + A^*U + Z \quad (22)$$

which may be rewritten as

$$A^{*-1}(Y^{(t)} - Z) = A^{*-1}Y^{(1)}B + A^{*-1}XC + U \quad (23)$$

which is linear in U .

Given the vectors A and Z , the parameters B and C in model (23) may be estimated by linear regression and furthermore may be examined using standard linear regression statistics. This is especially important to us, as B represents the effect of lagged output values on the output signal and C represents the effect of the input signal (education). In particular, if C has a low significance this might indicate that the input has only a weak influence on the output.

3. ESTIMATION EXPERIMENTS

Estimations of the model described in the previous section were performed for five European countries: Finland, France, Italy, The Netherlands and Portugal. These countries were

selected both because of the comparatively good time-series data available for them and because the selection spans a wide range of cultures. This range includes a Mediterranean latin country with a strong catholic background (Italy) as well as a strongly secularized latin country (France). The northern countries of Europe are represented by Finland and The Netherlands. The countries selected also cover a broad range of educational transition periods: for example, in Portugal the educational transition did not take place until the 1930s.

All data used in the estimations were taken from Mitchell (1975). [For further details of some of the data, see Livvi-Bacci (1971, 1977).] Education was measured by the gross participation rate in primary education, defined as

$$\frac{\text{Enrollment in primary schools}}{\text{Number of children aged 5-9}} \quad (24)$$

The 5-9 age group was selected because most population data are given for specific 5-year age groups, of which this is one. Even if primary education actually took place over a slightly different age range, this age group can be taken as a close proxy to the relevant population group. Consequently, instances in which the participation rate as defined above exceeded 1 were not considered as errors. As we are interested only in long-term trends, the effect of this approximation can safely be ignored.

Fertility was measured by the gross birth rate, defined as

$$\frac{\text{Total number of births in the population}}{\text{Number of women aged 15-45}} \quad (25)$$

Figure 2 shows a typical plot of both variables against time (the data are actually for Finland, 1850-1950). It can be seen that the educational transition started almost when the data begin, in the last quarter of the 19th century. The demographic transition started at about the same time, but it achieved its greatest momentum between 1910 and 1930.

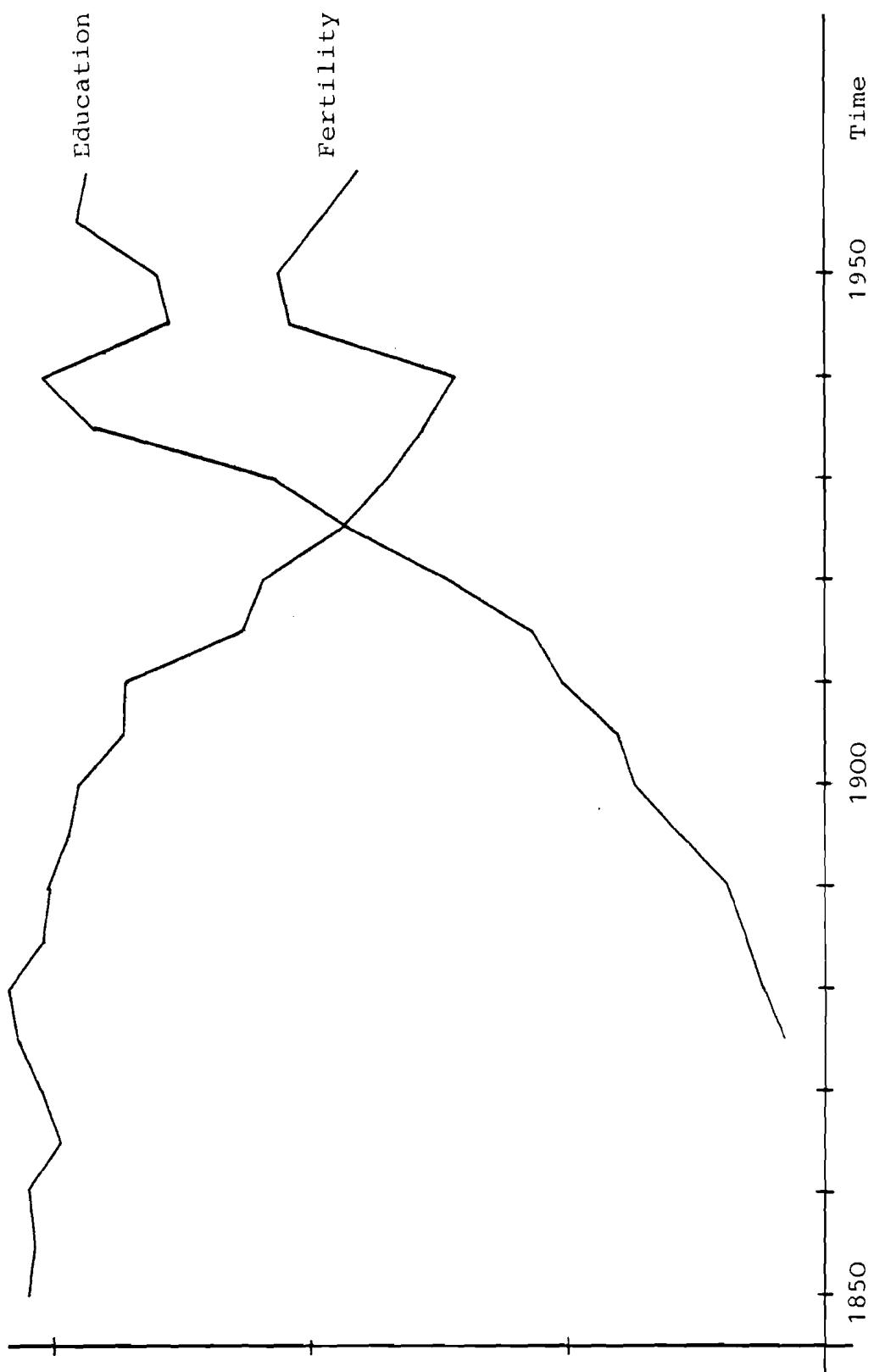


Figure 2. Observed data on education and fertility in Finland, 1850-1950.

As population data were available only at intervals of 5 to 10 years (varying from country to country and sometimes even within countries), linear interpolation was used to generate yearly data. Linear interpolation was also used to bridge any gaps that occurred in the educational time series data.

The literature on the effects of education on fertility does not reach a clear conclusion on whether the education of children or the educational level of their parents actually influences fertility. (For a critical survey, see Caldwell, 1976). The education of children may influence their parents' decisions on child-bearing in that it raises the costs of having children. (This may be caused partly by the fact that the children are unavailable for (domestic) work while at school and partly by an increase in the children's status that will probably encourage them to expect more support from their parents.) Education of potential parents may influence fertility by raising the mother's opportunity cost of having children and by increasing their ability to use effective contraceptive techniques. Educated parents may also be associated with a higher child survival rate, so that less births are required for a desired number of children to reach maturity.

To investigate whether the educational level of parents or that of their children has the greater influence on fertility, education with a time lag of 0, 5, 10, 15, 20 and 25 years was used as an input signal in the estimation experiments. The shorter lags correspond to the hypothesis that education of children will influence their parents' fertility. Longer lags would indicate that fertility is more influenced by the education received by the parents themselves as children.

To test the goodness of fit of the model for various phases of the transition process and also (where sufficient data was available) for periods before and after the transition, "moving window" sequences of estimations were performed. All estimations in one sequence contained the same number of observations, but the sample space was moved by one period between estimations.

All estimations were performed for both zero and first-order processes. Zero-order processes have the advantage that the transfer parameter c_0 may be interpreted as a coefficient of correlation between the two variables. On the other hand, dynamic relations can be captured only if the process is at least of order 1.

4. RESULTS

In this section, we first discuss the effects of the various modifications made in the estimation experiments on the overall fit of the model. We then analyze the values and the significance of the parameters.

4.1 Order of the Process Estimated

As we stated earlier, a zero-order process corresponds to a static view of the interactions between education and fertility while a first-order process takes the dynamics of these interactions into account. Formulated as regression equations, these two models are

$$y_t = c_0 x_t + u_t$$

and

$$y_t = c_0 x_t + c_1 x_{t-1} - b_1 y_{t-1} + u_t + a_1 u_{t-1}$$

From this interpretation we may conclude that the first-order model should fit the data at least as well as the zero-order model. Furthermore, any difference in the explanatory power of the two models can be attributed to the inclusion of the lagged terms.

Our experiments actually showed that the inclusion of the first-order terms improved the goodness of fit of the model only slightly. A typical result is illustrated in Figure 3, where the RMSE for both models with a lag of 5 years between education and fertility measurements is shown for The Netherlands.

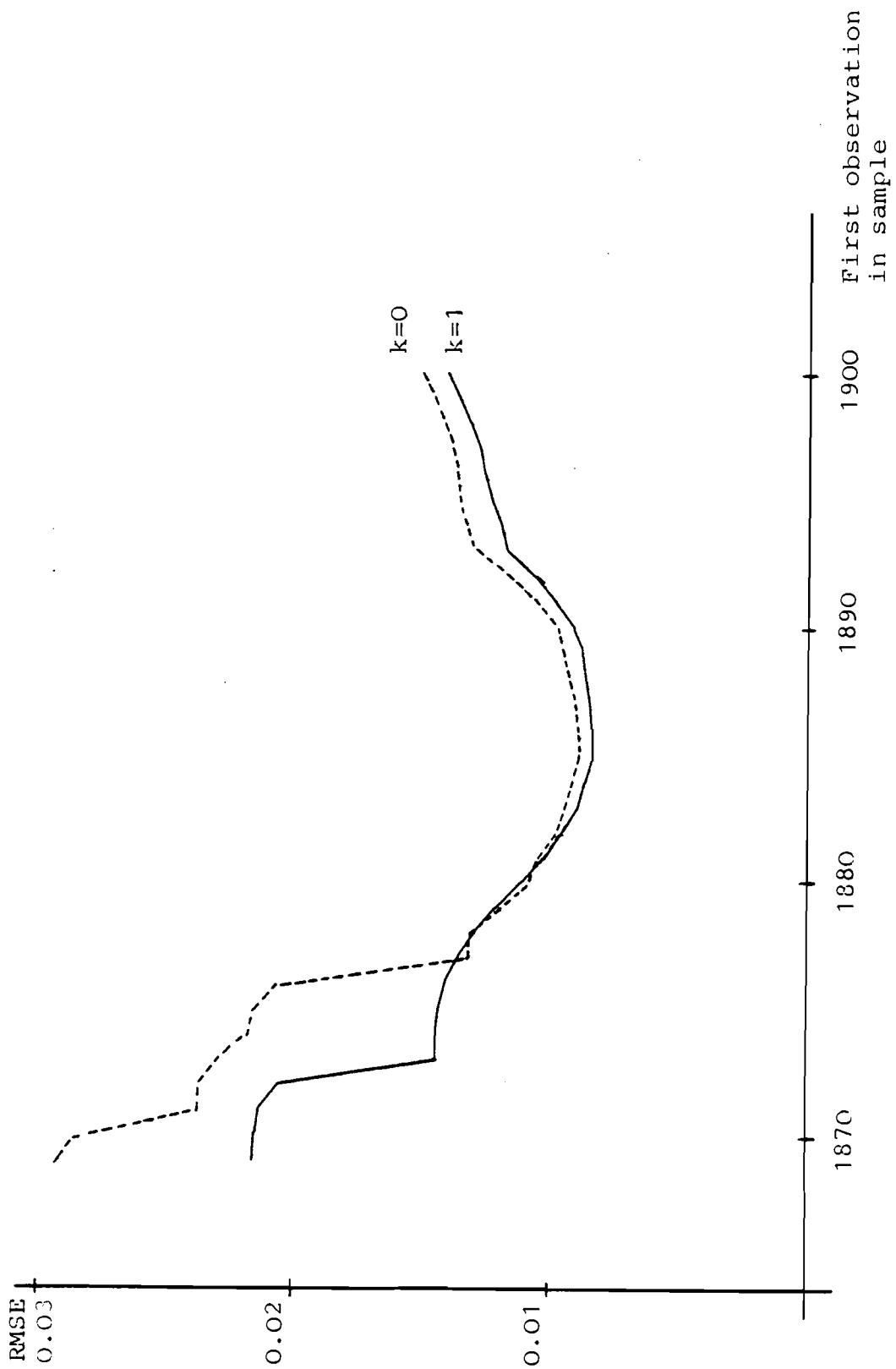


Figure 3. Root-mean-square errors for zero-order ($k=0$) and first-order ($k=1$) models. The data are from The Netherlands; both models assume a 5-year lag between education and fertility measurements.

The points marked on the time scale in this figure represent the starting points of the 40-year samples used in estimation. The point labelled 1900, for example, corresponds to an estimate using data from 1900 to 1940. The consistent similarity of the two curves indicates that the inclusion of lagged values does not significantly improve the explanatory power of the model. Figure 3 also shows a phenomenon common to all estimations: the model explains the data best in those periods in which the demographic transition actually took place. This can be seen by comparing Figure 3 to Figure 4, which shows Dutch education and fertility data plotted against time.

Figure 4 shows very clearly that the demographic transition in The Netherlands occurred between about 1880 and 1935. It is not so easy to identify an educational transition period, but most of the increase in education seems to have occurred before about 1920.

It has already been noted that the zero-order process is similar to a correlation analysis. From the graph of the time-series data, we may note that both series have segments in which there is an almost linear trend over time: fertility declines almost linearly between 1890 and 1915, while education increases almost linearly between 1870 and 1900. It is therefore not surprising that the regression coefficients of fertility on education are highest for estimations including those periods in which both series show qualitatively similar behavior.

Another phenomenon must also be considered in connection with the first-order model. A first-order autoregressive model can be fitted better to an almost steadily declining time series than to a time series that oscillates randomly around a constant value. The time series for fertility shows a decline of this type between 1880 and 1935, so the model should fit the data well in these periods, as is indeed the case.

The behavior of the model in the estimation experiments can thus be readily explained by the data to which the model was fitted. One should, however, be very careful when drawing any conclusions with regard to the structural relationships specified in the model, at least until some alternatives have been tested in the same way.

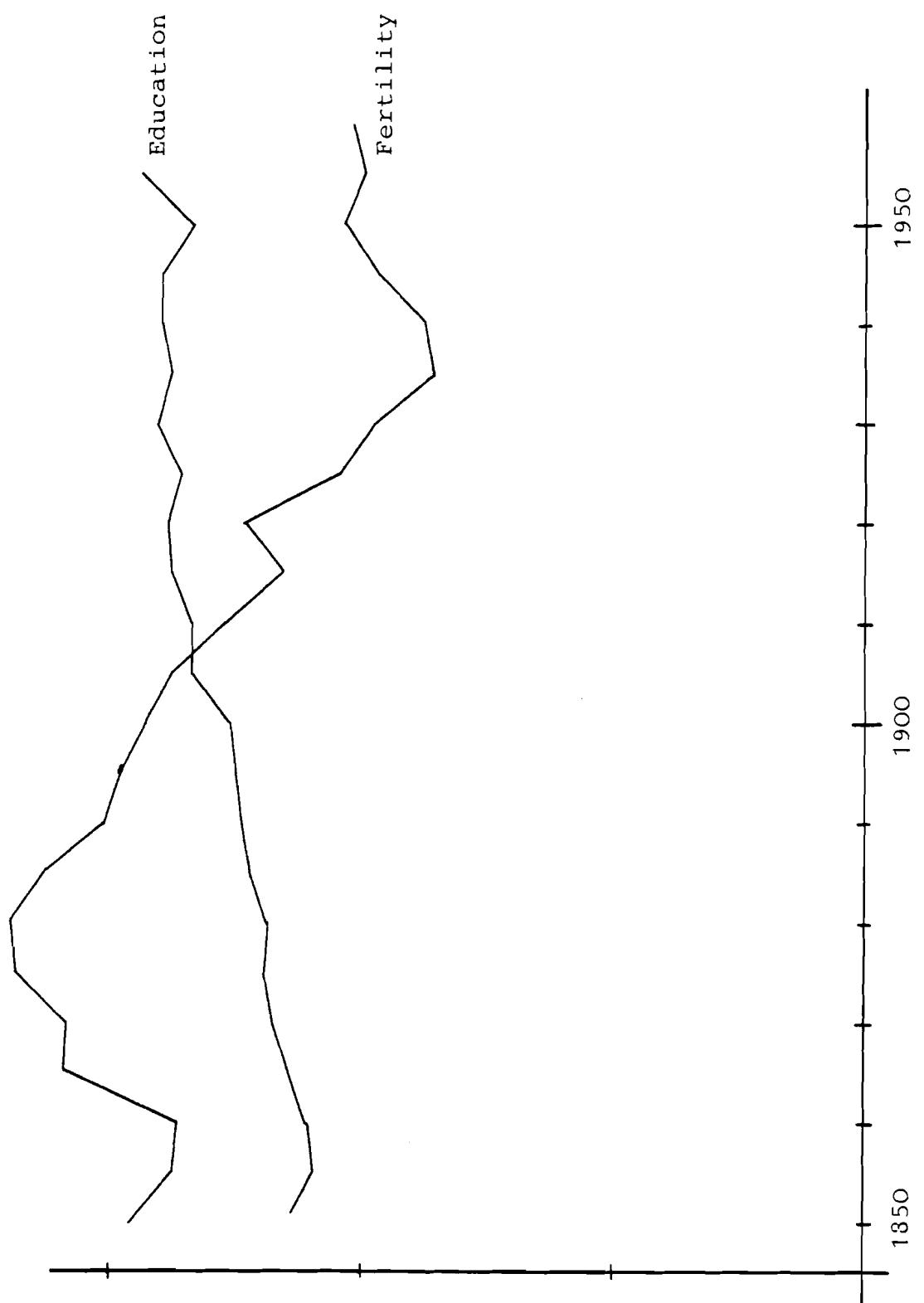


Figure 4. Observed data on education and fertility in The Netherlands,
1850-1950.

4.2 Lag Structure

The effects of lagging the input variable on the fit of the model can best be studied using graphs that show the RMSE for different estimation periods and lags. Figure 5 presents such a graph for The Netherlands. Very long lags (for example, those of 25 years) produced a consistently bad fit for all countries and processes, implying that most of the effects of education on fertility occur in a shorter time span.

Models involving lags of about 10 years seem to provide the best explanation of the observed behavior, and also exhibit a characteristic improvement in those periods in which the transition occurred. This fact seems to support the hypothesis that education of potential parents affects fertility, because 10 years after the completion of primary education was a likely age for child-bearing in the period analyzed. It should be noted, however, that other countries did not show this effect as strongly as The Netherlands. For example, in Italy lags of 5 and 15 years had the smallest RMSE, while a lag of 10 years was sometimes worse than no lag at all. The longest lags (20 and 25 years) were worst in all cases.

However, the improvement in the fit brought about by even the best lags are relatively small compared to the size of the error still remaining.

4.3 Parameters

4.3.1 Zero-order process

In this case, there is only one parameter: the transfer parameter c_0 . This parameter may be interpreted as something like a correlation coefficient between input and output variables, but we still have to take into account the different magnitudes of these variables, since they were normalized to a mean value of zero but not to unit variance. The coefficient had the expected (negative) sign in almost all cases. Its values were close to the quotient of the variables, between 0.1 and 0.2. However, the significance of the parameter as measured by the t-test did not reach any meaningful level.

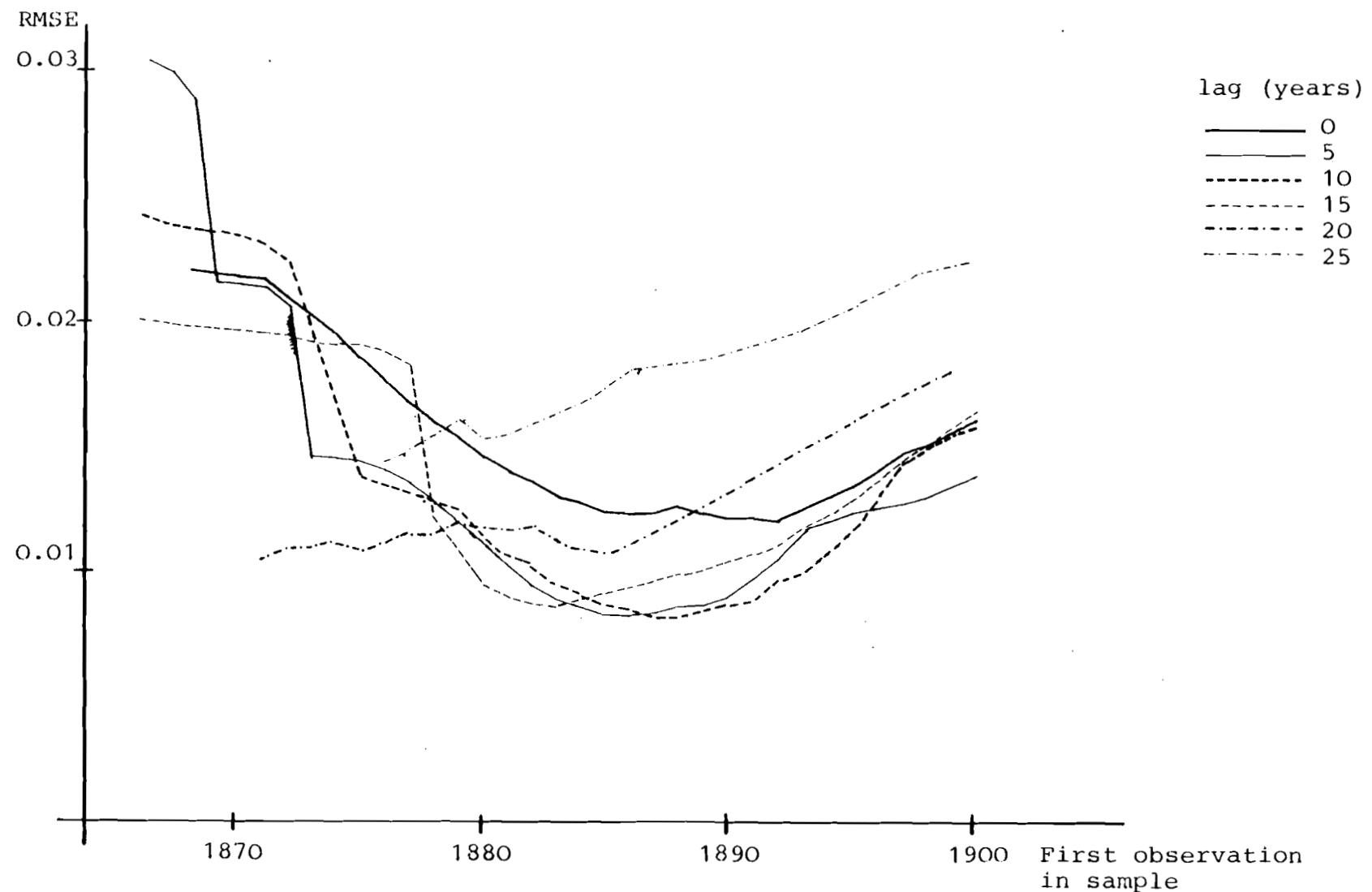


Figure 5. The values of the root-mean-square error (RMSE) for models incorporating lags of different lengths. The data are for The Netherlands.

It is not possible to interpret the development of the parameter over different estimation periods because the estimates obtained in one period were used as starting values in the next. The development over time of the parameters is therefore somewhat influenced by the numerical behavior of the optimization process, especially in those cases where the values were not modified because the previous value still satisfied the stopping criterion of the optimization algorithm. Therefore, the changes in parameters over time are not displayed as graphs; estimates are presented in tabular form for all countries in Appendix B.

The results obtained indicate that the model actually fitted in this case was one in which the output variable remained at a constant level and was relatively unaffected by the input signal. In other words, the results suggest that education and fertility do not show any significant correlation.

4.3.2 First-order process

The results obtained with the dynamic model confirm those of the static one. The autoregressive parameter b_1 was between 0.8 and 1 in most cases, indicating again that the output signal oscillated around a constant level or declined steadily in some periods. The autoregressive parameter was also consistently highly significant.

The contemporaneous transfer parameter c_0 was of about the same magnitude as in the zero-order model, and had a much lower significance value than the autoregressive parameter. As the overall behavior of the model did not change from zero to first order, we did not expect the lagged transfer parameter c_1 to be very significant, and the results confirmed this expectation. The t-values for this parameter were approximately the same as those for the contemporaneous transfer parameter, and the values of the parameters themselves were also similar.

These results suggest a mainly autoregressive model. The inclusion of the possible effects of education on fertility does not lead to a model that can explain the evolution of the birth rate better than a simple autoregressive model.

5. CONCLUSIONS AND TOPICS FOR FURTHER RESEARCH

Even a rough visual inspection of the time-series data on education and fertility indicates that the educational and demographic transition periods coincide. This coincidence has also been detected by our model. The estimation experiments also show that:

- Although there is a relation between single input and output values, this relation is generally not significant.
- When dynamic processes are considered, the strongest influence on fertility stems from the lagged fertility values. Apart from a purely statistical interpretation in terms of an autoregressive process, we might also interpret this variable as a proxy to other variables describing the effects of social and economic factors other than (but possibly related to) the level of education.
- The connection between education and fertility, if any, probably works through education of (potential) parents rather than through the effect of children's education on their parents. Educational changes should therefore not be expected to have any influence on fertility for about 10 years.

These results suggest that further research should concentrate on the following areas:

- The model should be expanded to include other socio-economic variables and their relationship to both education and fertility. Likely variables are:
Economic growth, measured by the annual rate of growth of GDP.
Technological level, measured for example by the productivity of labor and capital, as the opportunity costs of having children may be influenced by labor productivity.
Social indicators, especially those relating to the status of women in society, as our results suggest that decisions on fertility are based more on the parents' economic/social/educational level than on that of existing or potential children.

- Further research should consider a wider range of countries, especially developing countries. This is particularly important if the model is to be used not only to explain the historical development of education and fertility, but also for policy decisions based on forecasts of demographic development and the possibility of influencing such development by educational means.

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APPENDIX A: ESTIMATION SOFTWARE

A special estimation program has been developed to estimate the parameters of the linear filter system defined in equation (5). As outlined in Section 2.2, these estimates are made by minimizing the variance (or alternatively the sum of squares) of the residual vector u_t , $t=1,2,\dots,T$. The conjugate gradient method is used to perform the optimization.

The program operates on a sequential data file that may contain several time series in some fixed format with each line containing the observations for one period. The user may specify which variables are to be used as input and output signals. If a variable in the file contains a time index (year number), this variable may be used to select a specific subset of periods for which the estimates are to be made.

The program can be run either interactively or non-interactively. In the interactive mode, the program prompts the user for control parameters and echoes back the values accepted. In the non-interactive mode, the control parameters should be read from a file (via input redirection), the prompts and the listed values forming a protocol of the run that may be saved on a file via output redirection.

The following list gives a brief description of all prompts issued by the program and a short discussion of the parameters to be entered after each prompt.

Specify name of problem

The problem name is an arbitrary series of up to 80 characters that is printed at the top of each page of output.

name of data file

The name of the file from which the input and output signal values are to be read.

format of file

The format of each line in the file is standard FORTRAN notation. Note that the specification must be enclosed in parentheses.

number of vars in file

The total number of time series stored in the file. This number should agree with the number of numeric items specified in the format above.

variable numbers for x and y

The relative positions of the input and output values in each record. The first variable in the file is counted as 1.

variable nr of *time*

The relative position of a variable to be used as a time index.

If the file does not contain a time index, zero must be specified.
first and last period to be read

Numbers representing the first and last period that should be read from the file and stored within the program. Actual estimations may also be performed on a subset of these periods.

If a time index variable has been specified, periods are identified by the values stored in that variable. If no such variable has been specified, periods are identified by their relative position in the file, starting with period number 1.

If the values specified are not contained in the file, the program starts storing data from the first period greater than or equal to the "first period" and ends with the last period less than or equal to the "last period" or with the end of the file.

Order of process (k)

The order (number of lagged terms) of the system to be estimated.

*****Starting values for parameters*****

A starting value must be provided for each parameter to be estimated. The program will prompt the user for four sets of parameters:

a: k values for a_1 to a_k

b: k values for b_1 to b_k

c: k+1 values for c_0 to c_k

u0: k values for u_1 to u_k

*****Control parameters for iteration*****

Four control parameters are used to control the optimization process. They are:

acc: Stopping criterion. Optimization stops if the sum of all components in the gradient is smaller than acc. 1.e-6 is a suitable value.

maxfn: Maximum number of calls to the objective function. If this limit is exceeded, the iteration process is terminated abnormally.

dfpred: A rough estimate of the reduction in the objective value from the starting point to the optimum. Good results have been obtained with a value of 2.0.

dfpr2: The estimated reduction in objective values when the result of a previous estimation is used as a starting value. A low value (1.e-5) should be specified.

All parameters must be entered on one line in the order specified above. For further information on these parameters, see the IMSL documentation on routine ZXCGR.

iteration log interval, level (1,2,3,4)

In the interactive mode, the program enables the user to monitor the iterative process used in optimization. If a value $n > 0$ is specified for the iteration log interval, certain information specified by the log level is printed every n iterations. If 0 is specified, no iteration log is printed.

The iteration log levels 0 to 4 will produce the following output:

≤ 0 - no information is printed

1 - iteration number and value of objective function

2 - as in 1 plus the parameter values

3 - as in 2 plus the gradient vector

4 - as in 3 plus the vector of residuals

objective function

The variance is selected by typing v, the sum of squared residuals by typing s.

*******Test Options*******

Tests are performed if the corresponding question (see below) is answered with y (yes). They are not performed if the answer is n (no). If any other reply is given, the program repeats the prompt.

Perform ex ante test

An ex-ante simulation (lagged output values are taken from simulations of previous periods) is performed and test statistics (RMSE, MAD, smallest and largest deviations...) are computed.

Perform ex post test

Same as above for an ex-post simulation (actual values are used for the lagged output signal).

Plot observed and estimated data

A plot of the actual and simulated output signals is produced.

Perform analysis on residuals

Computes and tabulates the autocovariance, autocorrelation and partial autocorrelation functions for the residual vector.

Plot residuals

Generates a graphical representation of the residual vector.

Same tests for prediction period?

If not all the data read into the program have been used for estimation, data points for periods following the estimation period can be used to define a prediction period for which the same simulations and tests may be performed.

Copy output to file?

If the program is run interactively, all output is sent to the terminal. To make a copy of this output for later inspection, a file name must be specified after this prompt and the program will write a copy onto that file. If no such copy is desired (which will be the usual case if the program is run non-interactively), an asterisk (*) must be specified.

type of run

Three kinds of estimation experiment can be performed:

s - standard estimation

One estimation is performed for a specified subset of the data read.

e - expanding sample

Starting with a specified subset of the data, a sequence of estimations is performed. In each estimation, one period is added to the sample until all data points are included in the sample.

m - moving window

This method is similar to expanding sample estimation, but in each estimation the first period of the previous estimation is dropped from the sample, so that the sample size remains the same in all estimations.

Depending on the type of run selected, one of the following prompts is issued:

size of estimation period

The number of observations for which a standard estimation is to be performed. The sample always starts with the first period available and will contain the specified number of observations.

starting sample size

The size of the first sample to be used in an expanding sample analysis. The sample will always start with the first period stored.

window size

The number of observations to be used in each estimation in a moving window analysis.

Finland's no lag x 1975-1945 proceeds ordered: 1

| No. | From | To | Objective | pass-pass | rad-pass | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1975 | 1915 | 0.4600e+04 | 0.3776e+01 | 0.3492e+01 | -0.3105e+01 | -0.4930e+01 |
| 2 | 1975 | 1916 | 0.4674e+04 | 0.3851e+01 | 0.3739e+01 | -0.3055e+01 | -0.5072e+01 |
| 3 | 1977 | 1917 | 0.4674e+04 | 0.3820e+01 | 0.3895e+01 | -0.3873e+01 | -0.5532e+01 |
| 4 | 1979 | 1918 | 0.4630e+04 | 0.3280e+01 | 0.3149e+01 | -0.3857e+01 | -0.4143e+01 |
| 5 | 1979 | 1919 | 0.1176e+03 | 0.3725e+01 | 0.3570e+01 | -0.9267e+01 | -0.1282e+01 |
| 6 | 1939 | 1920 | 0.1110e+03 | 0.3797e+01 | 0.3604e+01 | -0.9267e+01 | -0.1675e+01 |
| 7 | 1921 | 1921 | 0.1143e+03 | 0.3721e+01 | 0.3552e+01 | -0.9267e+01 | -0.3483e+00 |
| 8 | 1922 | 1922 | 0.1120e+03 | 0.3693e+01 | 0.3536e+01 | -0.9267e+01 | -0.3685e+00 |
| 9 | 1923 | 1923 | 0.1134e+03 | 0.3471e+01 | 0.3510e+01 | -0.9267e+01 | -0.9165e+00 |
| 10 | 1924 | 1924 | 0.1139e+03 | 0.3646e+01 | 0.3504e+01 | -0.9267e+01 | -0.4662e+00 |
| 11 | 1925 | 1925 | 0.1151e+03 | 0.3651e+01 | 0.3497e+01 | -0.9267e+01 | -0.1018e+01 |
| 12 | 1926 | 1926 | 0.1124e+03 | 0.3655e+01 | 0.3495e+01 | -0.9267e+01 | -0.1079e+01 |
| 13 | 1927 | 1927 | 0.1117e+03 | 0.3673e+01 | 0.3515e+01 | -0.9267e+01 | -0.1140e+01 |
| 14 | 1928 | 1928 | 0.1100e+03 | 0.3621e+01 | 0.3525e+01 | -0.9267e+01 | -0.1207e+01 |
| 15 | 1929 | 1929 | 0.1124e+03 | 0.3475e+01 | 0.3510e+01 | -0.9267e+01 | -0.1262e+01 |
| 16 | 1930 | 1930 | 0.1111e+03 | 0.3655e+01 | 0.3427e+01 | -0.9267e+01 | -0.1327e+01 |
| 17 | 1931 | 1931 | 0.1119e+03 | 0.3644e+01 | 0.3424e+01 | -0.9267e+01 | -0.1354e+01 |
| 18 | 1932 | 1932 | 0.1150e+03 | 0.3634e+01 | 0.3450e+01 | -0.9267e+01 | -0.1386e+01 |
| 19 | 1933 | 1933 | 0.1075e+03 | 0.3573e+01 | 0.3320e+01 | -0.9091e+01 | -0.1396e+01 |
| 20 | 1934 | 1934 | 0.1066e+03 | 0.3457e+01 | 0.3292e+01 | -0.9091e+01 | -0.7913e+00 |
| 21 | 1935 | 1935 | 0.1264e+03 | 0.3326e+01 | 0.3201e+01 | -0.9091e+01 | -0.6700e+00 |
| 22 | 1936 | 1936 | 0.1374e+03 | 0.3310e+01 | 0.3101e+01 | -0.9091e+01 | -0.6009e+00 |
| 23 | 1937 | 1937 | 0.1547e+03 | 0.3244e+01 | 0.3012e+01 | -0.8251e+01 | -0.5394e+00 |
| 24 | 1938 | 1938 | 0.1773e+03 | 0.3240e+01 | 0.2951e+01 | -0.7567e+01 | -0.4595e+00 |
| 25 | 1939 | 1939 | 0.1750e+03 | 0.3244e+01 | 0.2955e+01 | -0.7567e+01 | -0.2723e+00 |
| 26 | 1940 | 1940 | 0.1711e+03 | 0.3232e+01 | 0.2902e+01 | -0.7055e+01 | -0.1496e+00 |
| 27 | 1941 | 1941 | 0.1756e+03 | 0.3271e+01 | 0.2925e+01 | -0.7065e+01 | -0.2495e+01 |
| 28 | 1942 | 1942 | 0.1650e+03 | 0.3290e+01 | 0.3720e+01 | -0.7055e+01 | -0.7902e+01 |
| 29 | 1943 | 1943 | 0.1652e+03 | 0.3313e+01 | 0.3642e+01 | -0.7065e+01 | -0.6477e+01 |
| 30 | 1944 | 1944 | 0.1610e+03 | 0.3392e+01 | 0.3144e+01 | -0.3696e+01 | -0.5480e+01 |
| 31 | 1945 | 1945 | 0.1665e+03 | 0.3337e+01 | 0.3126e+01 | -0.3696e+01 | -0.6372e+01 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9501e+00 | 0.1617e+03 | -0.5793e+01 | -0.3232e+01 |
| 0.9501e+00 | 0.1235e+03 | -0.5793e+01 | -0.3346e+01 |
| 0.9491e+00 | 0.1177e+03 | -0.6276e+01 | -0.3736e+01 |
| 0.9491e+00 | 0.9836e+02 | -0.6276e+01 | -0.2993e+01 |
| 0.9479e+00 | 0.1021e+03 | -0.6827e+01 | -0.1242e+01 |
| 0.9479e+00 | 0.6227e+02 | -0.6827e+01 | -0.1133e+01 |
| 0.9479e+00 | 0.6468e+02 | -0.6827e+01 | -0.5744e+00 |
| 0.9479e+00 | 0.5309e+02 | -0.6827e+01 | -0.5917e+00 |
| 0.9479e+00 | 0.5892e+02 | -0.6827e+01 | -0.5238e+00 |
| 0.9479e+00 | 0.5797e+02 | -0.6827e+01 | -0.6575e+00 |
| 0.9479e+00 | 0.5591e+02 | -0.6827e+01 | -0.6917e+00 |
| 0.9479e+00 | 0.5515e+02 | -0.6827e+01 | -0.7314e+00 |
| 0.9479e+00 | 0.5358e+02 | -0.6827e+01 | -0.7717e+00 |
| 0.9479e+00 | 0.5341e+02 | -0.6827e+01 | -0.8152e+00 |
| 0.9479e+00 | 0.5402e+02 | -0.6827e+01 | -0.8522e+00 |
| 0.9479e+00 | 0.5371e+02 | -0.6827e+01 | -0.8941e+00 |
| 0.9479e+00 | 0.5478e+02 | -0.6827e+01 | -0.9141e+00 |
| 0.9479e+00 | 0.5227e+02 | -0.6827e+01 | -0.9338e+00 |
| 0.9469e+00 | 0.5235e+02 | -0.6568e+01 | -0.9261e+00 |
| 0.9469e+00 | 0.5437e+02 | -0.6568e+01 | -0.5423e+00 |
| 0.9469e+00 | 0.4785e+02 | -0.6568e+01 | -0.4512e+00 |
| 0.9467e+00 | 0.4861e+02 | -0.6145e+01 | -0.4040e+00 |
| 0.9465e+00 | 0.4544e+02 | -0.5729e+01 | -0.3579e+00 |
| 0.9460e+00 | 0.4340e+02 | -0.5020e+01 | -0.2917e+00 |
| 0.9460e+00 | 0.3821e+02 | -0.5020e+01 | -0.1620e+00 |
| 0.9453e+00 | 0.3725e+02 | -0.4473e+01 | -0.9389e+01 |
| 0.9453e+00 | 0.3201e+02 | -0.4473e+01 | -0.5119e+01 |
| 0.9453e+00 | 0.3161e+02 | -0.4473e+01 | -0.4821e+01 |
| 0.9453e+00 | 0.2767e+02 | -0.4473e+01 | -0.4565e+01 |
| 0.9447e+00 | 0.2344e+02 | -0.3833e+01 | -0.3737e+01 |
| 0.9447e+00 | 0.2786e+02 | -0.3833e+01 | -0.3723e+01 |

Finlands lag 5 years, 1901-1945 process content: 1

| Nr. | From | To | Objective | obs-post | pred-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1880 | 1920 | 0.1075e-03 | 0.6644e-01 | 0.5942e-01 | -0.113e-00 | -0.6547e+01 |
| 2 | 1881 | 1921 | 0.1042e-03 | 0.6670e-01 | 0.5954e-01 | -0.113e+00 | -0.6792e+01 |
| 3 | 1882 | 1922 | 0.9955e-04 | 0.6144e-01 | 0.6062e-01 | -0.1202e+00 | -0.6924e+01 |
| 4 | 1883 | 1923 | 0.9999e-04 | 0.6142e-01 | 0.6052e-01 | -0.1202e+00 | -0.5341e+01 |
| 5 | 1884 | 1924 | 0.9943e-04 | 0.6131e-01 | 0.6050e-01 | -0.1202e+00 | -0.2076e+01 |
| 6 | 1885 | 1925 | 0.9994e-04 | 0.6100e-01 | 0.6019e-01 | -0.1202e+00 | -0.2053e+01 |
| 7 | 1886 | 1926 | 0.1074e-03 | 0.6041e-01 | 0.5955e-01 | -0.1202e+00 | -0.1178e+01 |
| 8 | 1887 | 1927 | 0.1133e-03 | 0.5815e-01 | 0.5712e-01 | -0.1150e+00 | -0.1150e+01 |
| 9 | 1888 | 1928 | 0.1120e-03 | 0.5572e-01 | 0.5422e-01 | -0.1104e+00 | -0.1155e+01 |
| 10 | 1889 | 1929 | 0.1174e-03 | 0.5226e-01 | 0.5111e-01 | -0.1041e+00 | -0.1151e+01 |
| 11 | 1890 | 1930 | 0.1209e-03 | 0.5140e-01 | 0.5074e-01 | -0.1041e+00 | -0.1200e+01 |
| 12 | 1891 | 1931 | 0.1212e-03 | 0.5124e-01 | 0.5044e-01 | -0.1041e+00 | -0.1272e+01 |
| 13 | 1892 | 1932 | 0.1120e-03 | 0.5150e-01 | 0.5041e-01 | -0.1041e+00 | -0.1340e+01 |
| 14 | 1893 | 1933 | 0.1157e-03 | 0.5107e-01 | 0.4991e-01 | -0.1041e+00 | -0.1429e+01 |
| 15 | 1894 | 1934 | 0.1051e-03 | 0.5079e-01 | 0.4823e-01 | -0.1041e+00 | -0.1511e+01 |
| 16 | 1895 | 1935 | 0.1007e-03 | 0.4956e-01 | 0.4754e-01 | -0.1041e+00 | -0.1602e+01 |
| 17 | 1896 | 1936 | 0.1107e-03 | 0.4746e-01 | 0.4647e-01 | -0.9912e+00 | -0.1550e+01 |
| 18 | 1897 | 1937 | 0.1206e-03 | 0.4715e-01 | 0.4584e-01 | -0.9812e+00 | -0.1577e+01 |
| 19 | 1898 | 1938 | 0.1305e-03 | 0.4611e-01 | 0.4456e-01 | -0.9401e+00 | -0.1557e+01 |
| 20 | 1899 | 1939 | 0.1770e-03 | 0.4027e-01 | 0.4180e-01 | -0.9111e+00 | -0.6790e+00 |
| 21 | 1900 | 1940 | 0.1872e-03 | 0.4716e-01 | 0.4634e-01 | -0.2574e+00 | -0.3483e+00 |
| 22 | 1901 | 1941 | 0.2305e-03 | 0.4232e-01 | 0.3945e-01 | -0.5654e+00 | -0.4532e+00 |
| 23 | 1902 | 1942 | 0.2779e-03 | 0.4192e-01 | 0.3600e-01 | -0.8035e+00 | -0.3896e+00 |
| 24 | 1903 | 1943 | 0.2751e-03 | 0.4127e-01 | 0.3587e-01 | -0.8035e+00 | -0.3617e+00 |
| 25 | 1904 | 1944 | 0.2409e-03 | 0.4194e-01 | 0.3373e-01 | -0.5645e+00 | -0.2044e+00 |
| 26 | 1905 | 1945 | 0.2657e-03 | 0.4127e-01 | 0.3342e-01 | -0.3229e+00 | -0.1122e+00 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9009e+00 | 0.3922e+02 | -0.9705e-01 | -0.5099e+01 |
| 0.9009e+00 | 0.4202e+02 | -0.9705e-01 | -0.5238e+01 |
| 0.9002e+00 | 0.3854e+02 | -0.9847e-01 | -0.5311e+01 |
| 0.9002e+00 | 0.3624e+02 | -0.9897e-01 | -0.4572e+01 |
| 0.9002e+00 | 0.3759e+02 | -0.9397e-01 | -0.1596e+01 |
| 0.9002e+00 | 0.3556e+02 | -0.9397e-01 | -0.1596e+01 |
| 0.9002e+00 | 0.3730e+02 | -0.9847e-01 | -0.3989e+00 |
| 0.3999e+00 | 0.3469e+02 | -0.9538e-01 | -0.3795e+00 |
| 0.3997e+00 | 0.3469e+02 | -0.9030e-01 | -0.3795e+00 |
| 0.8994e+00 | 0.3477e+02 | -0.8439e-01 | -0.3706e+00 |
| 0.8994e+00 | 0.3305e+02 | -0.8439e-01 | -0.2038e+00 |
| 0.8994e+00 | 0.3241e+02 | -0.8439e-01 | -0.2533e+00 |
| 0.3994e+00 | 0.3210e+02 | -0.8439e-01 | -0.1615e+01 |
| 0.3994e+00 | 0.3130e+02 | -0.8439e-01 | -0.1675e+01 |
| 0.3994e+00 | 0.3079e+02 | -0.8439e-01 | -0.1135e+01 |
| 0.3994e+00 | 0.3132e+02 | -0.8439e-01 | -0.1197e+01 |
| 0.3992e+00 | 0.3237e+02 | -0.7862e-01 | -0.1152e+01 |
| 0.3992e+00 | 0.3105e+02 | -0.7363e-01 | -0.1165e+01 |
| 0.3989e+00 | 0.3220e+02 | -0.7530e-01 | -0.1145e+01 |
| 0.3986e+00 | 0.3141e+02 | -0.6527e-01 | -0.5431e+00 |
| 0.3973e+00 | 0.2329e+02 | -0.5101e-01 | -0.4274e+00 |
| 0.3970e+00 | 0.2721e+02 | -0.5355e-01 | -0.3614e+00 |
| 0.3956e+00 | 0.2546e+02 | -0.4833e-01 | -0.3123e+00 |
| 0.3956e+00 | 0.2220e+02 | -0.4833e-01 | -0.2295e+00 |
| 0.3944e+00 | 0.2016e+02 | -0.4400e-01 | -0.1464e+00 |
| 0.3944e+00 | 0.1970e+02 | -0.4103e-01 | -0.3916e-01 |

Finlands last 10 years 1985 process report 1

| nr. | from | to | objactive | processpost | nedpost | cc | t-test |
|-----|------|------|------------|-------------|------------|----|-------------|
| 1 | 1985 | 1985 | 0.779e-01 | 0.764e-01 | 0.1330e+00 | 0 | -0.2072e+01 |
| 2 | 1986 | 1986 | 0.771e-01 | 0.751e-01 | 0.1250e+00 | 0 | -0.2389e+01 |
| 3 | 1987 | 1987 | 0.791e-01 | 0.792e-01 | 0.1553e+00 | 0 | -0.2483e+01 |
| 4 | 1988 | 1988 | 0.790e-01 | 0.794e-01 | 0.1555e+00 | 0 | -0.2777e+01 |
| 5 | 1989 | 1989 | 0.7875e-01 | 0.7915e-01 | 0.1558e+00 | 0 | -0.2399e+01 |
| 6 | 1990 | 1990 | 0.7862e-01 | 0.7762e-01 | 0.1255e+00 | 0 | -0.2526e+01 |
| 7 | 1991 | 1991 | 0.1251e-03 | 0.7572e-01 | 0.1220e+00 | 0 | -0.1255e+01 |
| 8 | 1992 | 1992 | 0.1252e-03 | 0.7656e-01 | 0.1221e+00 | 0 | -0.1256e+01 |
| 9 | 1993 | 1993 | 0.1256e-03 | 0.4922e-01 | 0.1221e+00 | 0 | -0.1256e+01 |
| 10 | 1994 | 1994 | 0.1257e-03 | 0.4671e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 11 | 1995 | 1995 | 0.1257e-03 | 0.4727e-01 | 0.1152e+00 | 0 | -0.1256e+01 |
| 12 | 1996 | 1996 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 13 | 1997 | 1997 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 14 | 1998 | 1998 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 15 | 1999 | 1999 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 16 | 2000 | 2000 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 17 | 2001 | 2001 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 18 | 2002 | 2002 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 19 | 2003 | 2003 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 20 | 2004 | 2004 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |
| 21 | 2005 | 2005 | 0.1257e-03 | 0.4727e-01 | 0.1153e+00 | 0 | -0.1256e+01 |

| b1 | t-test | c1 | t-test |
|--------------|-------------|--------------|--------------|
| 0.37228e+00 | 0.2959e+02 | -0.11023e+00 | -0.6371e+01 |
| 0.37228e+00 | 0.2739e+02 | -0.11323e+00 | -0.6631e+01 |
| 0.37129e+00 | 0.2716e+02 | -0.11249e+00 | -0.6710e+01 |
| 0.37129e+00 | 0.2387e+02 | -0.1129e+00 | -0.5288e+01 |
| 0.37129e+00 | 0.2512e+02 | -0.1129e+00 | -0.1971e+01 |
| 0.37129e+00 | 0.2565e+02 | -0.1129e+00 | -0.1344e+01 |
| 0.37129e+00 | 0.2670e+02 | -0.10713e+00 | -0.3970e+00 |
| 0.37129e+00 | 0.2343e+02 | -0.10193e+00 | -0.9559e+00 |
| 0.37129e+00 | 0.2030e+02 | -0.9153e-01 | -0.11099e+01 |
| 0.37129e+00 | 0.2030e+02 | -0.9153e-01 | -0.1029e+01 |
| 0.370773e+00 | 0.2062e+02 | -0.7979e-01 | -0.1029e+01 |
| 0.370773e+00 | 0.2143e+02 | -0.7979e-01 | -0.1029e+01 |
| 0.370773e+00 | 0.22223e+02 | -0.7379e-01 | -0.1051e+01 |
| 0.36359e+00 | 0.22619e+02 | -0.6897e-01 | -0.1021e+01 |
| 0.36359e+00 | 0.23573e+02 | -0.6315e-01 | -0.2641e+00 |
| 0.36359e+00 | 0.24064e+02 | -0.5315e-01 | -0.1010e+01 |
| 0.26733e+00 | 0.2101e+02 | -0.5246e-01 | -0.4435e+00 |
| 0.2603e+00 | 0.1833e+02 | -0.42539e-01 | -0.2961e+00 |

Finlands lag 15 years 1920-1945 process ordent 1

| Nr. | From | To | Objective | c1seepost | c1adpost | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1920 | 1920 | 0.8629e-04 | 0.9546e-01 | 0.9511e-01 | -0.1464e+00 | -0.9444e+01 |
| 2 | 1921 | 1921 | 0.8707e-04 | 0.9546e-01 | 0.9513e-01 | -0.1464e+00 | -0.8789e+01 |
| 3 | 1922 | 1922 | 0.8584e-04 | 0.9537e-01 | 0.9503e-01 | -0.1464e+00 | -0.8682e+01 |
| 4 | 1923 | 1923 | 0.8377e-04 | 0.9512e-01 | 0.9489e-01 | -0.1464e+00 | -0.7007e+01 |
| 5 | 1924 | 1924 | 0.8284e-04 | 0.9444e-01 | 0.9416e-01 | -0.1464e+00 | -0.2545e+01 |
| 6 | 1925 | 1925 | 0.8226e-04 | 0.9370e-01 | 0.9337e-01 | -0.1464e+00 | -0.2489e+01 |
| 7 | 1926 | 1926 | 0.8246e-04 | 0.9290e-01 | 0.9230e-01 | -0.1464e+00 | -0.1391e+01 |
| 8 | 1927 | 1927 | 0.1281e-03 | 0.8170e-01 | 0.8097e-01 | -0.1240e+00 | -0.1201e+01 |
| 9 | 1928 | 1928 | 0.1604e-03 | 0.7735e-01 | 0.7581e-01 | -0.1154e+00 | -0.1130e+01 |
| 10 | 1929 | 1929 | 0.1033e-03 | 0.7260e-01 | 0.7129e-01 | -0.1041e+00 | -0.1130e+01 |
| 11 | 1930 | 1940 | 0.1893e-03 | 0.7240e-01 | 0.7104e-01 | -0.1041e+00 | -0.1176e+01 |
| 12 | 1931 | 1941 | 0.2160e-03 | 0.6674e-01 | 0.6506e-01 | -0.2031e-01 | -0.1090e+01 |
| 13 | 1932 | 1942 | 0.2170e-03 | 0.5556e-01 | 0.5500e-01 | -0.9031e-01 | -0.1142e+01 |
| 14 | 1933 | 1943 | 0.2147e-03 | 0.6424e-01 | 0.6271e-01 | -0.2425e-01 | -0.1126e+01 |
| 15 | 1934 | 1944 | 0.2747e-03 | 0.6247e-01 | 0.6053e-01 | -0.7885e-01 | -0.1099e+01 |
| 16 | 1935 | 1945 | 0.3674e-03 | 0.5307e-01 | 0.5649e-01 | -0.6996e-01 | -0.4516e+00 |

| c1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.3505e+00 | 0.1369e+02 | -0.1254e+00 | -0.5444e+01 |
| 0.3505e+00 | 0.1791e+02 | -0.1254e+00 | -0.7226e+01 |
| 0.8505e+00 | 0.1854e+02 | -0.1254e+00 | -0.7134e+01 |
| 0.3503e+00 | 0.1600e+02 | -0.1254e+00 | -0.5761e+01 |
| 0.8505e+00 | 0.1564e+02 | -0.1254e+00 | -0.2045e+01 |
| 0.3505e+00 | 0.1544e+02 | -0.1254e+00 | -0.2050e+01 |
| 0.8505e+00 | 0.1615e+02 | -0.1254e+00 | -0.1152e+01 |
| 0.3513e+00 | 0.1560e+02 | -0.1065e+00 | -0.9949e+00 |
| 0.3494e+00 | 0.1548e+02 | -0.1003e+00 | -0.4885e+00 |
| 0.8490e+00 | 0.1609e+02 | -0.3979e-01 | -0.9422e+00 |
| 0.3490e+00 | 0.1603e+02 | -0.3979e-01 | -0.9744e+00 |
| 0.3431e+00 | 0.1590e+02 | -0.7651e-01 | -0.3330e+00 |
| 0.3431e+00 | 0.1693e+02 | -0.7651e-01 | -0.9733e+00 |
| 0.3470e+00 | 0.1563e+02 | -0.7064e-01 | -0.3085e+00 |
| 0.3459e+00 | 0.1643e+02 | -0.6552e-01 | -0.3794e+00 |
| 0.3444e+00 | 0.1646e+02 | -0.5414e-01 | -0.7591e+00 |

Finland, lag 20 years, 1905-1945 process order: 1

| No. | From | To | Objective | ctsetpost | ctdpost | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1905 | 1935 | 0.7544e+04 | 0.1153e+00 | 0.1152e+00 | -0.1660e+00 | -0.9438e+01 |
| 2 | 1906 | 1936 | 0.7631e+04 | 0.1149e+00 | 0.1148e+00 | -0.1660e+00 | -0.9307e+01 |
| 3 | 1907 | 1937 | 0.4239e+04 | 0.1144e+00 | 0.1143e+00 | -0.1660e+00 | -0.9618e+01 |
| 4 | 1908 | 1938 | 0.5047e+04 | 0.1139e+00 | 0.1138e+00 | -0.1660e+00 | -0.7863e+01 |
| 5 | 1909 | 1939 | 0.6810e+04 | 0.1109e+00 | 0.1108e+00 | -0.1611e+00 | -0.2539e+01 |
| 6 | 1900 | 1940 | 0.3720e+04 | 0.2725e+01 | 0.2725e+01 | -0.1365e+00 | -0.2203e+01 |
| 7 | 1901 | 1941 | 0.1493e+03 | 0.9517e+01 | 0.8731e+01 | -0.1117e+02 | -0.1042e+01 |
| 8 | 1902 | 1942 | 0.1740e+03 | 0.9501e+01 | 0.8730e+01 | -0.1054e+02 | -0.1013e+01 |
| 9 | 1903 | 1943 | 0.1956e+03 | 0.9209e+01 | 0.8030e+01 | -0.9938e+01 | -0.1005e+01 |
| 10 | 1904 | 1944 | 0.2247e+03 | 0.7404e+01 | 0.7227e+01 | -0.8040e+01 | -0.8665e+00 |
| 11 | 1905 | 1945 | 0.2653e+03 | 0.7174e+01 | 0.6882e+01 | -0.7551e+01 | -0.8670e+00 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.8188e+00 | 0.1236e+02 | -0.1415e+00 | -0.7759e+01 |
| 0.8138e+00 | 0.1217e+02 | -0.1415e+00 | -0.8062e+01 |
| 0.2188e+00 | 0.1259e+02 | -0.1415e+00 | -0.7905e+01 |
| 0.8188e+00 | 0.1129e+02 | -0.1415e+00 | -0.6460e+01 |
| 0.8193e+00 | 0.1136e+02 | -0.1373e+00 | -0.2099e+01 |
| 0.3212e+00 | 0.1244e+02 | -0.1159e+00 | -0.1312e+01 |
| 0.9215e+00 | 0.1334e+02 | -0.1043e+00 | -0.9570e+00 |
| 0.3207e+00 | 0.1421e+02 | -0.9934e+01 | -0.9509e+00 |
| 0.3203e+00 | 0.1233e+02 | -0.9539e+01 | -0.9432e+00 |
| 0.8139e+00 | 0.1560e+02 | -0.7963e+01 | -0.8464e+00 |
| 0.8181e+00 | 0.1342e+02 | -0.7564e+01 | -0.8296e+00 |

Finland, lag 25 years, 1905-1945 process order: 1

| No. | From | To | Objective | ctsetpost | ctdpost | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1900 | 1945 | 0.1026e+03 | 0.1101e+00 | 0.1107e+00 | -0.1572e+00 | -0.4104e+01 |
| 2 | 1901 | 1941 | 0.1034e+03 | 0.1106e+00 | 0.1103e+00 | -0.1572e+00 | -0.4447e+01 |
| 3 | 1902 | 1942 | 0.1367e+03 | 0.1103e+00 | 0.1107e+00 | -0.1572e+00 | -0.3773e+01 |
| 4 | 1903 | 1943 | 0.1372e+03 | 0.1140e+00 | 0.1143e+00 | -0.1521e+00 | -0.3212e+01 |
| 5 | 1904 | 1944 | 0.1546e+03 | 0.2232e+01 | 0.2453e+01 | -0.1222e+00 | -0.1936e+01 |
| 6 | 1905 | 1945 | 0.2107e+03 | 0.2652e+01 | 0.2747e+01 | -0.1222e+00 | -0.1843e+01 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.3257e+00 | 0.1165e+02 | -0.1306e+00 | -0.7345e+01 |
| 0.3257e+00 | 0.1138e+02 | -0.1306e+00 | -0.7524e+01 |
| 0.3257e+00 | 0.1203e+02 | -0.1306e+00 | -0.7059e+01 |
| 0.3260e+00 | 0.9987e+01 | -0.1252e+00 | -0.5409e+01 |
| 0.3250e+00 | 0.1052e+02 | -0.1006e+00 | -0.1457e+01 |
| 0.3250e+00 | 0.1092e+02 | -0.1006e+00 | -0.1462e+01 |

Italy, no lag , 1362-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1862 | 1902 | 0.4896e-04 | 0.2590e-01 | 0.2494e-01 | -0.3648e-01 | -0.6522e-02 |
| 2 | 1863 | 1903 | 0.5157e-04 | 0.2546e-01 | 0.2443e-01 | -0.3648e-01 | -0.7607e-02 |
| 3 | 1864 | 1904 | 0.4868e-04 | 0.2495e-01 | 0.2395e-01 | -0.3648e-01 | -0.8890e-02 |
| 4 | 1865 | 1905 | 0.4918e-04 | 0.2468e-01 | 0.2366e-01 | -0.3648e-01 | -0.1058e-01 |
| 5 | 1866 | 1906 | 0.5090e-04 | 0.2436e-01 | 0.2329e-01 | -0.3648e-01 | -0.1286e-01 |
| 6 | 1867 | 1907 | 0.5250e-04 | 0.2390e-01 | 0.2277e-01 | -0.3648e-01 | -0.1498e-01 |
| 7 | 1868 | 1908 | 0.5242e-04 | 0.2391e-01 | 0.2279e-01 | -0.3648e-01 | -0.1740e-01 |
| 8 | 1869 | 1909 | 0.5049e-04 | 0.2398e-01 | 0.2290e-01 | -0.3648e-01 | -0.2036e-01 |
| 9 | 1370 | 1910 | 0.5030e-04 | 0.2399e-01 | 0.2292e-01 | -0.3648e-01 | -0.2404e-01 |
| 10 | 1871 | 1911 | 0.5213e-04 | 0.2394e-01 | 0.2283e-01 | -0.3648e-01 | -0.2883e-01 |
| 11 | 1372 | 1912 | 0.5246e-04 | 0.2393e-01 | 0.2281e-01 | -0.3648e-01 | -0.3399e-01 |
| 12 | 1873 | 1913 | 0.5512e-04 | 0.2368e-01 | 0.2249e-01 | -0.3648e-01 | -0.3946e-01 |
| 13 | 1874 | 1914 | 0.5898e-04 | 0.2355e-01 | 0.2226e-01 | -0.3648e-01 | -0.4561e-01 |
| 14 | 1875 | 1915 | 0.6167e-04 | 0.2350e-01 | 0.2214e-01 | -0.3648e-01 | -0.5188e-01 |
| 15 | 1876 | 1916 | 0.5293e-04 | 0.1407e-01 | 0.1321e-01 | -0.1184e+00 | -0.1931e+00 |
| 16 | 1877 | 1917 | 0.1023e-03 | 0.1485e-01 | 0.1367e-01 | -0.1184e+00 | -0.2147e+00 |
| 17 | 1878 | 1918 | 0.1531e-03 | 0.1522e-01 | 0.1356e-01 | -0.1230e+00 | -0.2540e+00 |
| 18 | 1879 | 1919 | 0.1362e-03 | 0.1193e-01 | 0.9484e-02 | -0.1953e+00 | -0.4148e+00 |
| 19 | 1880 | 1920 | 0.1548e-03 | 0.1289e-01 | 0.1012e-01 | -0.1953e+00 | -0.4422e+00 |
| 20 | 1881 | 1921 | 0.1546e-03 | 0.1335e-01 | 0.1032e-01 | -0.1953e+00 | -0.4716e+00 |
| 21 | 1882 | 1922 | 0.1613e-03 | 0.1394e-01 | 0.1076e-01 | -0.1953e+00 | -0.5302e+00 |
| 22 | 1883 | 1923 | 0.1558e-03 | 0.1398e-01 | 0.1081e-01 | -0.1953e+00 | -0.6110e+00 |
| 23 | 1884 | 1924 | 0.1565e-03 | 0.1399e-01 | 0.1085e-01 | -0.1953e+00 | -0.6930e+00 |
| 24 | 1885 | 1925 | 0.1684e-03 | 0.1417e-01 | 0.1107e-01 | -0.1953e+00 | -0.7771e+00 |
| 25 | 1886 | 1926 | 0.1340e-03 | 0.1447e-01 | 0.1137e-01 | -0.1953e+00 | -0.8647e+00 |
| 26 | 1887 | 1927 | 0.1919e-03 | 0.1462e-01 | 0.1168e-01 | -0.1953e+00 | -0.9714e+00 |
| 27 | 1888 | 1928 | 0.1955e-03 | 0.1459e-01 | 0.1164e-01 | -0.1953e+00 | -0.1085e+01 |
| 28 | 1889 | 1929 | 0.1965e-03 | 0.1457e-01 | 0.1157e-01 | -0.1953e+00 | -0.1174e+01 |
| 29 | 1890 | 1930 | 0.1964e-03 | 0.1456e-01 | 0.1156e-01 | -0.1953e+00 | -0.1184e+01 |
| 30 | 1891 | 1931 | 0.1967e-03 | 0.1461e-01 | 0.1169e-01 | -0.1953e+00 | -0.1134e+01 |
| 31 | 1892 | 1932 | 0.1963e-03 | 0.1458e-01 | 0.1165e-01 | -0.1953e+00 | -0.1054e+01 |
| 32 | 1893 | 1933 | 0.1960e-03 | 0.1462e-01 | 0.1171e-01 | -0.1953e+00 | -0.9587e+00 |
| 33 | 1894 | 1934 | 0.1973e-03 | 0.1467e-01 | 0.1178e-01 | -0.1953e+00 | -0.8545e+00 |
| 34 | 1895 | 1935 | 0.2066e-03 | 0.1509e-01 | 0.1220e-01 | -0.1953e+00 | -0.6828e+00 |
| 35 | 1896 | 1936 | 0.2096e-03 | 0.1526e-01 | 0.1243e-01 | -0.1864e+00 | -0.5004e+00 |
| 36 | 1897 | 1937 | 0.2078e-03 | 0.1521e-01 | 0.1259e-01 | -0.1769e+00 | -0.3956e+00 |
| 37 | 1898 | 1938 | 0.2103e-03 | 0.1531e-01 | 0.1283e-01 | -0.1671e+00 | -0.3099e+00 |
| 38 | 1899 | 1939 | 0.2211e-03 | 0.1586e-01 | 0.1342e-01 | -0.1671e+00 | -0.2485e+00 |
| 39 | 1900 | 1940 | 0.2101e-03 | 0.1480e-01 | 0.1261e-01 | -0.1272e+00 | -0.1494e+00 |
| 40 | 1901 | 1941 | 0.2096e-03 | 0.1476e-01 | 0.1249e-01 | -0.1272e+00 | -0.1232e+00 |
| 41 | 1902 | 1942 | 0.2104e-03 | 0.1474e-01 | 0.1244e-01 | -0.1272e+00 | -0.1075e+00 |
| 42 | 1903 | 1943 | 0.2146e-03 | 0.1479e-01 | 0.1250e-01 | -0.1272e+00 | -0.9726e-01 |
| 43 | 1904 | 1944 | 0.2317e-03 | 0.1528e-01 | 0.1302e-01 | -0.1272e+00 | -0.9062e-01 |
| 44 | 1905 | 1945 | 0.2513e-03 | 0.1587e-01 | 0.1347e-01 | -0.1272e+00 | -0.8630e-01 |

Italy, lag 5 years, 1866-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1866 | 1906 | 0.5245e-04 | 0.2636e-01 | 0.2535e-01 | -0.2063e-01 | -0.3137e-02 |
| 2 | 1867 | 1907 | 0.5537e-04 | 0.2582e-01 | 0.2472e-01 | -0.2063e-01 | -0.3687e-02 |
| 3 | 1868 | 1908 | 0.5606e-04 | 0.2574e-01 | 0.2462e-01 | -0.2063e-01 | -0.4298e-02 |
| 4 | 1869 | 1909 | 0.5604e-04 | 0.2574e-01 | 0.2462e-01 | -0.2063e-01 | -0.5022e-02 |
| 5 | 1870 | 1910 | 0.5691e-04 | 0.2567e-01 | 0.2454e-01 | -0.2063e-01 | -0.5973e-02 |
| 6 | 1871 | 1911 | 0.6093e-04 | 0.2556e-01 | 0.2434e-01 | -0.2063e-01 | -0.7258e-02 |
| 7 | 1872 | 1912 | 0.6315e-04 | 0.2548e-01 | 0.2421e-01 | -0.2063e-01 | -0.8455e-02 |
| 8 | 1873 | 1913 | 0.6709e-04 | 0.2515e-01 | 0.2378e-01 | -0.2063e-01 | -0.9821e-02 |
| 9 | 1874 | 1914 | 0.7310e-04 | 0.2406e-01 | 0.2345e-01 | -0.2063e-01 | -0.1149e-01 |
| 10 | 1875 | 1915 | 0.7887e-04 | 0.2487e-01 | 0.2323e-01 | -0.2063e-01 | -0.1358e-01 |
| 11 | 1876 | 1916 | 0.6635e-04 | 0.1325e-01 | 0.1189e-01 | -0.9936e-01 | -0.7965e-01 |
| 12 | 1877 | 1917 | 0.1373e-03 | 0.1483e-01 | 0.1269e-01 | -0.9936e-01 | -0.9382e-01 |
| 13 | 1878 | 1918 | 0.1584e-03 | 0.1288e-01 | 0.8113e-02 | -0.1792e+00 | -0.1971e+00 |
| 14 | 1879 | 1919 | 0.1775e-03 | 0.1369e-01 | 0.8510e-02 | -0.1792e+00 | -0.2278e+00 |
| 15 | 1880 | 1920 | 0.1839e-03 | 0.1380e-01 | 0.8646e-02 | -0.1792e+00 | -0.2594e+00 |
| 16 | 1881 | 1921 | 0.1792e-03 | 0.1348e-01 | 0.8432e-02 | -0.1792e+00 | -0.2924e+00 |
| 17 | 1882 | 1922 | 0.1893e-03 | 0.1330e-01 | 0.8799e-02 | -0.1792e+00 | -0.3255e+00 |
| 18 | 1883 | 1923 | 0.1975e-03 | 0.1406e-01 | 0.9094e-02 | -0.1792e+00 | -0.3561e+00 |
| 19 | 1884 | 1924 | 0.2041e-03 | 0.1429e-01 | 0.9435e-02 | -0.1792e+00 | -0.3792e+00 |
| 20 | 1885 | 1925 | 0.2103e-03 | 0.1451e-01 | 0.9752e-02 | -0.1792e+00 | -0.4042e+00 |
| 21 | 1886 | 1926 | 0.2166e-03 | 0.1474e-01 | 0.1015e-01 | -0.1792e+00 | -0.4317e+00 |
| 22 | 1887 | 1927 | 0.2160e-03 | 0.1475e-01 | 0.1016e-01 | -0.1792e+00 | -0.4857e+00 |
| 23 | 1888 | 1928 | 0.2166e-03 | 0.1475e-01 | 0.1018e-01 | -0.1792e+00 | -0.5598e+00 |
| 24 | 1889 | 1929 | 0.2269e-03 | 0.1507e-01 | 0.1058e-01 | -0.1792e+00 | -0.6344e+00 |
| 25 | 1890 | 1930 | 0.2382e-03 | 0.1544e-01 | 0.1092e-01 | -0.1792e+00 | -0.7109e+00 |
| 26 | 1891 | 1931 | 0.2625e-03 | 0.1625e-01 | 0.1168e-01 | -0.1792e+00 | -0.7899e+00 |
| 27 | 1892 | 1932 | 0.2781e-03 | 0.1681e-01 | 0.1219e-01 | -0.1792e+00 | -0.8857e+00 |
| 28 | 1893 | 1933 | 0.2254e-03 | 0.1712e-01 | 0.1259e-01 | -0.1792e+00 | -0.9877e+00 |
| 29 | 1894 | 1934 | 0.2251e-03 | 0.1718e-01 | 0.1271e-01 | -0.1792e+00 | -0.1068e+01 |
| 30 | 1895 | 1935 | 0.2340e-03 | 0.1718e-01 | 0.1269e-01 | -0.1792e+00 | -0.1078e+01 |
| 31 | 1896 | 1936 | 0.2832e-03 | 0.1717e-01 | 0.1264e-01 | -0.1792e+00 | -0.1032e+01 |
| 32 | 1897 | 1937 | 0.2832e-03 | 0.1717e-01 | 0.1264e-01 | -0.1792e+00 | -0.9594e+00 |
| 33 | 1898 | 1938 | 0.2858e-03 | 0.1722e-01 | 0.1277e-01 | -0.1792e+00 | -0.8730e+00 |
| 34 | 1899 | 1939 | 0.2902e-03 | 0.1730e-01 | 0.1302e-01 | -0.1792e+00 | -0.7785e+00 |
| 35 | 1900 | 1940 | 0.2708e-03 | 0.1691e-01 | 0.1242e-01 | -0.1279e+00 | -0.4451e+00 |
| 36 | 1901 | 1941 | 0.2683e-03 | 0.1687e-01 | 0.1226e-01 | -0.1279e+00 | -0.3421e+00 |
| 37 | 1902 | 1942 | 0.2670e-03 | 0.1688e-01 | 0.1231e-01 | -0.1279e+00 | -0.2850e+00 |
| 38 | 1903 | 1943 | 0.2653e-03 | 0.1692e-01 | 0.1240e-01 | -0.1279e+00 | -0.2365e+00 |
| 39 | 1904 | 1944 | 0.2665e-03 | 0.1702e-01 | 0.1265e-01 | -0.1279e+00 | -0.1898e+00 |
| 40 | 1905 | 1945 | 0.2648e-03 | 0.1706e-01 | 0.1277e-01 | -0.1279e+00 | -0.1497e+00 |

Italy, lag 20 years, 1881-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1881 | 1921 | 0.2813e-03 | 0.2326e-01 | 0.1610e-01 | -0.1490e+00 | -0.2271e-01 |
| 2 | 1882 | 1922 | 0.2754e-03 | 0.2281e-01 | 0.1564e-01 | -0.1490e+00 | -0.2671e-01 |
| 3 | 1883 | 1923 | 0.2690e-03 | 0.2234e-01 | 0.1524e-01 | -0.1490e+00 | -0.3114e-01 |
| 4 | 1884 | 1924 | 0.2649e-03 | 0.2212e-01 | 0.1498e-01 | -0.1490e+00 | -0.3640e-01 |
| 5 | 1885 | 1925 | 0.2644e-03 | 0.2207e-01 | 0.1492e-01 | -0.1490e+00 | -0.4331e-01 |
| 6 | 1886 | 1926 | 0.2635e-03 | 0.2200e-01 | 0.1484e-01 | -0.1490e+00 | -0.5264e-01 |
| 7 | 1887 | 1927 | 0.2633e-03 | 0.2197e-01 | 0.1482e-01 | -0.1490e+00 | -0.6131e-01 |
| 8 | 1888 | 1928 | 0.2626e-03 | 0.2219e-01 | 0.1515e-01 | -0.1490e+00 | -0.7120e-01 |
| 9 | 1889 | 1929 | 0.2642e-03 | 0.2242e-01 | 0.1544e-01 | -0.1490e+00 | -0.8330e-01 |
| 10 | 1890 | 1930 | 0.2629e-03 | 0.2257e-01 | 0.1570e-01 | -0.1490e+00 | -0.9840e-01 |
| 11 | 1891 | 1931 | 0.2649e-03 | 0.2274e-01 | 0.1588e-01 | -0.1490e+00 | -0.1180e+00 |
| 12 | 1892 | 1932 | 0.2664e-03 | 0.2312e-01 | 0.1637e-01 | -0.1490e+00 | -0.1390e+00 |
| 13 | 1893 | 1933 | 0.2658e-03 | 0.2342e-01 | 0.1682e-01 | -0.1490e+00 | -0.1612e+00 |
| 14 | 1894 | 1934 | 0.2628e-03 | 0.2372e-01 | 0.1731e-01 | -0.1490e+00 | -0.1862e+00 |
| 15 | 1895 | 1935 | 0.2593e-03 | 0.2390e-01 | 0.1766e-01 | -0.1490e+00 | -0.2115e+00 |
| 16 | 1896 | 1936 | 0.2560e-03 | 0.2409e-01 | 0.1801e-01 | -0.1490e+00 | -0.2382e+00 |
| 17 | 1897 | 1937 | 0.2515e-03 | 0.2420e-01 | 0.1829e-01 | -0.1490e+00 | -0.2648e+00 |
| 18 | 1898 | 1938 | 0.2478e-03 | 0.2424e-01 | 0.1844e-01 | -0.1490e+00 | -0.2896e+00 |
| 19 | 1899 | 1939 | 0.2466e-03 | 0.2425e-01 | 0.1848e-01 | -0.1490e+00 | -0.3082e+00 |
| 20 | 1900 | 1940 | 0.2468e-03 | 0.2425e-01 | 0.1848e-01 | -0.1490e+00 | -0.3285e+00 |
| 21 | 1901 | 1941 | 0.2454e-03 | 0.2431e-01 | 0.1859e-01 | -0.1490e+00 | -0.3507e+00 |
| 22 | 1902 | 1942 | 0.2449e-03 | 0.2445e-01 | 0.1879e-01 | -0.1490e+00 | -0.3938e+00 |
| 23 | 1903 | 1943 | 0.2482e-03 | 0.2502e-01 | 0.1943e-01 | -0.1490e+00 | -0.4522e+00 |
| 24 | 1904 | 1944 | 0.2711e-03 | 0.2620e-01 | 0.2038e-01 | -0.1490e+00 | -0.5095e+00 |
| 25 | 1905 | 1945 | 0.2984e-03 | 0.2768e-01 | 0.2163e-01 | -0.1490e+00 | -0.5668e+00 |

Italy, lag 25 years, 1886-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1886 | 1926 | 0.2150e-03 | 0.3027e-01 | 0.2648e-01 | -0.1717e+00 | -0.2603e-01 |
| 2 | 1887 | 1927 | 0.2066e-03 | 0.2933e-01 | 0.2614e-01 | -0.1717e+00 | -0.3059e-01 |
| 3 | 1888 | 1928 | 0.2075e-03 | 0.2991e-01 | 0.2621e-01 | -0.1717e+00 | -0.3564e-01 |
| 4 | 1889 | 1929 | 0.2076e-03 | 0.2992e-01 | 0.2622e-01 | -0.1717e+00 | -0.4162e-01 |
| 5 | 1890 | 1930 | 0.2073e-03 | 0.2986e-01 | 0.2616e-01 | -0.1717e+00 | -0.4951e-01 |
| 6 | 1891 | 1931 | 0.2032e-03 | 0.2963e-01 | 0.2597e-01 | -0.1717e+00 | -0.6010e-01 |
| 7 | 1892 | 1932 | 0.2047e-03 | 0.2988e-01 | 0.2623e-01 | -0.1717e+00 | -0.6994e-01 |
| 8 | 1893 | 1933 | 0.2054e-03 | 0.3008e-01 | 0.2644e-01 | -0.1717e+00 | -0.8115e-01 |
| 9 | 1894 | 1934 | 0.2054e-03 | 0.3028e-01 | 0.2667e-01 | -0.1717e+00 | -0.9486e-01 |
| 10 | 1895 | 1935 | 0.2055e-03 | 0.3037e-01 | 0.2677e-01 | -0.1717e+00 | -0.1179e+00 |
| 11 | 1896 | 1936 | 0.2060e-03 | 0.3046e-01 | 0.2687e-01 | -0.1717e+00 | -0.1340e+00 |
| 12 | 1897 | 1937 | 0.2055e-03 | 0.3059e-01 | 0.2702e-01 | -0.1717e+00 | -0.1577e+00 |
| 13 | 1898 | 1938 | 0.2042e-03 | 0.3064e-01 | 0.2711e-01 | -0.1717e+00 | -0.1829e+00 |
| 14 | 1899 | 1939 | 0.2041e-03 | 0.3065e-01 | 0.2712e-01 | -0.1717e+00 | -0.2110e+00 |
| 15 | 1900 | 1940 | 0.2030e-03 | 0.3066e-01 | 0.2713e-01 | -0.1717e+00 | -0.2397e+00 |
| 16 | 1901 | 1941 | 0.2016e-03 | 0.3080e-01 | 0.2733e-01 | -0.1717e+00 | -0.2696e+00 |
| 17 | 1902 | 1942 | 0.1993e-03 | 0.3091e-01 | 0.2750e-01 | -0.1717e+00 | -0.2994e+00 |
| 18 | 1903 | 1943 | 0.1940e-03 | 0.3112e-01 | 0.2783e-01 | -0.1717e+00 | -0.3269e+00 |
| 19 | 1904 | 1944 | 0.1922e-03 | 0.3134e-01 | 0.2811e-01 | -0.1717e+00 | -0.3475e+00 |
| 20 | 1905 | 1945 | 0.1834e-03 | 0.3154e-01 | 0.2840e-01 | -0.1717e+00 | -0.3698e+00 |

Italy, no lag , 1865-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1865 | 1905 | 0.1136e-03 | 0.4418e-01 | 0.4285e-01 | -0.1402e-01 | -0.1626e+01 |
| 2 | 1866 | 1906 | 0.1191e-03 | 0.4347e-01 | 0.4210e-01 | -0.1402e-01 | -0.2597e+01 |
| 3 | 1867 | 1907 | 0.1253e-03 | 0.4283e-01 | 0.4141e-01 | -0.1402e-01 | -0.2786e+01 |
| 4 | 1868 | 1908 | 0.1269e-03 | 0.4233e-01 | 0.4133e-01 | -0.1402e-01 | -0.2954e+01 |
| 5 | 1869 | 1909 | 0.1255e-03 | 0.4288e-01 | 0.4141e-01 | -0.1402e-01 | -0.3202e+01 |
| 6 | 1870 | 1910 | 0.1263e-03 | 0.4234e-01 | 0.4136e-01 | -0.1402e-01 | -0.3630e+01 |
| 7 | 1871 | 1911 | 0.1203e-03 | 0.4142e-01 | 0.3992e-01 | -0.1906e-01 | -0.5593e+01 |
| 8 | 1872 | 1912 | 0.1191e-03 | 0.3966e-01 | 0.3809e-01 | -0.2503e-01 | -0.8442e+01 |
| 9 | 1873 | 1913 | 0.1246e-03 | 0.3943e-01 | 0.3778e-01 | -0.2503e-01 | -0.8485e+01 |
| 10 | 1874 | 1914 | 0.3635e-04 | 0.2966e-01 | 0.2712e-01 | -0.7252e-01 | -0.2878e+02 |
| 11 | 1875 | 1915 | 0.7772e-04 | 0.2867e-01 | 0.2729e-01 | -0.7252e-01 | -0.2623e+02 |
| 12 | 1876 | 1916 | 0.1094e-03 | 0.2833e-01 | 0.2678e-01 | -0.7252e-01 | -0.2789e+02 |
| 13 | 1877 | 1917 | 0.1941e-03 | 0.2257e-01 | 0.2052e-01 | -0.1106e+00 | -0.4174e+02 |
| 14 | 1878 | 1918 | 0.2876e-03 | 0.1941e-01 | 0.1633e-01 | -0.1512e+00 | -0.5804e+02 |
| 15 | 1879 | 1919 | 0.3151e-03 | 0.1830e-01 | 0.1451e-01 | -0.1766e+00 | -0.6986e+02 |
| 16 | 1880 | 1920 | 0.3033e-03 | 0.1828e-01 | 0.1448e-01 | -0.1766e+00 | -0.7081e+02 |
| 17 | 1881 | 1921 | 0.3401e-03 | 0.1996e-01 | 0.1525e-01 | -0.1766e+00 | -0.7345e+02 |
| 18 | 1882 | 1922 | 0.3553e-03 | 0.2119e-01 | 0.1626e-01 | -0.1740e+00 | -0.6311e+02 |
| 19 | 1883 | 1923 | 0.3452e-03 | 0.2155e-01 | 0.1680e-01 | -0.1717e+00 | -0.5648e+02 |
| 20 | 1884 | 1924 | 0.3470e-03 | 0.2155e-01 | 0.1672e-01 | -0.1717e+00 | -0.4586e+02 |
| 21 | 1885 | 1925 | 0.3677e-03 | 0.2166e-01 | 0.1689e-01 | -0.1717e+00 | -0.4402e+02 |
| 22 | 1886 | 1926 | 0.4053e-03 | 0.2214e-01 | 0.1744e-01 | -0.1717e+00 | -0.4618e+02 |
| 23 | 1887 | 1927 | 0.4339e-03 | 0.2246e-01 | 0.1779e-01 | -0.1717e+00 | -0.4468e+02 |
| 24 | 1888 | 1928 | 0.4475e-03 | 0.2251e-01 | 0.1786e-01 | -0.1717e+00 | -0.4408e+02 |
| 25 | 1889 | 1929 | 0.4518e-03 | 0.2243e-01 | 0.1773e-01 | -0.1717e+00 | -0.3952e+02 |
| 26 | 1890 | 1930 | 0.4507e-03 | 0.2233e-01 | 0.1763e-01 | -0.1717e+00 | -0.3683e+02 |
| 27 | 1891 | 1931 | 0.4521e-03 | 0.2242e-01 | 0.1770e-01 | -0.1717e+00 | -0.3518e+02 |
| 28 | 1892 | 1932 | 0.4506e-03 | 0.2236e-01 | 0.1757e-01 | -0.1717e+00 | -0.3394e+02 |
| 29 | 1893 | 1933 | 0.4499e-03 | 0.2233e-01 | 0.1752e-01 | -0.1717e+00 | -0.3247e+02 |
| 30 | 1894 | 1934 | 0.4409e-03 | 0.2211e-01 | 0.1740e-01 | -0.1630e+00 | -0.3067e+02 |
| 31 | 1895 | 1935 | 0.4400e-03 | 0.2213e-01 | 0.1757e-01 | -0.1637e+00 | -0.2425e+02 |
| 32 | 1896 | 1936 | 0.4219e-03 | 0.2136e-01 | 0.1731e-01 | -0.1332e+00 | -0.1854e+02 |
| 33 | 1897 | 1937 | 0.4245e-03 | 0.2146e-01 | 0.1746e-01 | -0.1332e+00 | -0.1574e+02 |
| 34 | 1898 | 1938 | 0.4318e-03 | 0.2172e-01 | 0.1782e-01 | -0.1332e+00 | -0.1475e+02 |
| 35 | 1899 | 1939 | 0.4456e-03 | 0.2217e-01 | 0.1832e-01 | -0.1332e+00 | -0.1329e+02 |
| 36 | 1900 | 1940 | 0.4542e-03 | 0.2237e-01 | 0.1862e-01 | -0.1290e+00 | -0.1160e+02 |
| 37 | 1901 | 1941 | 0.4495e-03 | 0.2217e-01 | 0.1860e-01 | -0.1249e+00 | -0.9737e+01 |
| 38 | 1902 | 1942 | 0.4493e-03 | 0.2211e-01 | 0.1836e-01 | -0.1249e+00 | -0.8559e+01 |
| 39 | 1903 | 1943 | 0.4552e-03 | 0.2213e-01 | 0.1840e-01 | -0.1249e+00 | -0.7741e+01 |
| 40 | 1904 | 1944 | 0.4218e-03 | 0.2254e-01 | 0.1883e-01 | -0.1249e+00 | -0.7095e+01 |
| 41 | 1905 | 1945 | 0.5236e-03 | 0.2328e-01 | 0.1947e-01 | -0.1249e+00 | -0.6574e+01 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.1000e+01 | 0.1494e+03 | -0.4600e-01 | -0.4751e+01 |
| 0.1000e+01 | 0.1655e+03 | -0.4600e-01 | -0.8076e+01 |
| 0.1000e+01 | 0.1760e+03 | -0.4600e-01 | -0.8717e+01 |
| 0.1000e+01 | 0.1938e+03 | -0.4600e-01 | -0.9208e+01 |
| 0.1000e+01 | 0.2198e+03 | -0.4600e-01 | -0.9911e+01 |
| 0.1000e+01 | 0.2463e+03 | -0.4600e-01 | -0.1097e+02 |
| 0.9992e+00 | 0.2860e+03 | -0.5082e-01 | -0.1433e+02 |
| 0.9979e+00 | 0.3577e+03 | -0.5657e-01 | -0.1915e+02 |
| 0.9979e+00 | 0.3820e+03 | -0.5657e-01 | -0.1981e+02 |
| 0.9992e+00 | 0.4475e+03 | -0.1026e+00 | -0.4315e+02 |
| 0.9892e+00 | 0.5547e+03 | -0.1026e+00 | -0.4221e+02 |
| 0.9892e+00 | 0.5822e+03 | -0.1026e+00 | -0.4586e+02 |
| 0.9793e+00 | 0.5758e+03 | -0.1384e+00 | -0.5958e+02 |
| 0.9632e+00 | 0.5143e+03 | -0.1772e+00 | -0.7549e+02 |
| 0.9444e+00 | 0.4696e+03 | -0.2014e+00 | -0.8342e+02 |
| 0.9444e+00 | 0.4740e+03 | -0.2014e+00 | -0.8337e+02 |
| 0.9444e+00 | 0.4377e+03 | -0.2014e+00 | -0.8627e+02 |
| 0.9423e+00 | 0.4020e+03 | -0.1980e+00 | -0.6773e+02 |
| 0.9396e+00 | 0.4140e+03 | -0.1944e+00 | -0.5809e+02 |
| 0.9396e+00 | 0.4398e+03 | -0.1944e+00 | -0.4660e+02 |
| 0.9396e+00 | 0.4564e+03 | -0.1944e+00 | -0.4599e+02 |
| 0.9396e+00 | 0.4649e+03 | -0.1944e+00 | -0.4821e+02 |
| 0.9396e+00 | 0.4793e+03 | -0.1944e+00 | -0.4511e+02 |
| 0.9396e+00 | 0.5117e+03 | -0.1944e+00 | -0.4408e+02 |
| 0.9396e+00 | 0.5408e+03 | -0.1944e+00 | -0.4038e+02 |
| 0.9396e+00 | 0.5668e+03 | -0.1944e+00 | -0.3913e+02 |
| 0.9396e+00 | 0.5475e+03 | -0.1944e+00 | -0.3884e+02 |
| 0.9396e+00 | 0.5400e+03 | -0.1944e+00 | -0.3794e+02 |
| 0.9396e+00 | 0.5231e+03 | -0.1944e+00 | -0.3666e+02 |
| 0.9365e+00 | 0.5131e+03 | -0.1892e+00 | -0.3472e+02 |
| 0.9338e+00 | 0.4850e+03 | -0.1838e+00 | -0.2983e+02 |
| 0.9196e+00 | 0.4462e+03 | -0.1482e+00 | -0.2286e+02 |
| 0.9196e+00 | 0.3925e+03 | -0.1482e+00 | -0.1821e+02 |
| 0.9196e+00 | 0.3658e+03 | -0.1482e+00 | -0.1756e+02 |
| 0.9196e+00 | 0.3223e+03 | -0.1482e+00 | -0.1595e+02 |
| 0.9170e+00 | 0.2895e+03 | -0.1431e+00 | -0.1399e+02 |
| 0.9141e+00 | 0.2601e+03 | -0.1378e+00 | -0.1127e+02 |
| 0.9141e+00 | 0.2367e+03 | -0.1378e+00 | -0.9672e+01 |
| 0.9141e+00 | 0.2253e+03 | -0.1378e+00 | -0.8615e+01 |
| 0.9141e+00 | 0.2051e+03 | -0.1378e+00 | -0.7937e+01 |
| 0.9141e+00 | 0.1828e+03 | -0.1378e+00 | -0.7453e+01 |

Italy, lag 5 years, 1865-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1865 | 1905 | 0.2440e+08 | 0.5001e+04 | 0.5000e+00 | 0.2605e-09 | |
| 2 | 1866 | 1906 | 0.6171e-04 | 0.2952e-01 | 0.2245e-01 | -0.4673e-02 | -0.4795e+00 |
| 3 | 1867 | 1907 | 0.6611e-04 | 0.2951e-01 | 0.2234e-01 | -0.3237e-02 | -0.3260e+00 |
| 4 | 1868 | 1908 | 0.6691e-04 | 0.2934e-01 | 0.2269e-01 | -0.2041e-02 | -0.2493e+00 |
| 5 | 1869 | 1909 | 0.6910e-04 | 0.2979e-01 | 0.2260e-01 | -0.2041e-02 | -0.2152e+00 |
| 6 | 1870 | 1910 | 0.6957e-04 | 0.2666e-01 | 0.2246e-01 | -0.2041e-02 | -0.3737e+00 |
| 7 | 1871 | 1911 | 0.7400e-04 | 0.2953e-01 | 0.2224e-01 | -0.2041e-02 | -0.6081e+00 |
| 8 | 1872 | 1912 | 0.7866e-04 | 0.2881e-01 | 0.2238e-01 | -0.4219e-02 | -0.1417e+01 |
| 9 | 1873 | 1913 | 0.8106e-04 | 0.2351e-01 | 0.2701e-01 | -0.4219e-02 | -0.1511e+01 |
| 10 | 1874 | 1914 | 0.9054e-04 | 0.2836e-01 | 0.2667e-01 | -0.4219e-02 | -0.1565e+01 |
| 11 | 1875 | 1915 | 0.8951e-04 | 0.2636e-01 | 0.2511e-01 | -0.1046e-01 | -0.4279e+01 |
| 12 | 1876 | 1916 | 0.6540e-04 | 0.1037e-01 | 0.9046e-02 | -0.1158e+00 | -0.4854e+02 |
| 13 | 1877 | 1917 | 0.1371e-03 | 0.1292e-01 | 0.1033e-01 | -0.1158e+00 | -0.6007e+02 |
| 14 | 1878 | 1918 | 0.2151e-03 | 0.1537e-01 | 0.1121e-01 | -0.1158e+00 | -0.6115e+02 |
| 15 | 1879 | 1919 | 0.1718e-03 | 0.1727e-01 | 0.1292e-01 | -0.2216e+00 | -0.1203e+03 |
| 16 | 1880 | 1920 | 0.1870e-03 | 0.1677e-01 | 0.1248e-01 | -0.2216e+00 | -0.1071e+03 |
| 17 | 1881 | 1921 | 0.1905e-03 | 0.1638e-01 | 0.1237e-01 | -0.2214e+00 | -0.1152e+03 |
| 18 | 1882 | 1922 | 0.2147e-03 | 0.1654e-01 | 0.1248e-01 | -0.2214e+00 | -0.1065e+03 |
| 19 | 1883 | 1923 | 0.2371e-03 | 0.1677e-01 | 0.1254e-01 | -0.2191e+00 | -0.1220e+03 |
| 20 | 1884 | 1924 | 0.2440e-03 | 0.1649e-01 | 0.1191e-01 | -0.2084e+00 | -0.1084e+03 |
| 21 | 1885 | 1925 | 0.2508e-03 | 0.1616e-01 | 0.1110e-01 | -0.1966e+00 | -0.1055e+03 |
| 22 | 1886 | 1926 | 0.2542e-03 | 0.1611e-01 | 0.1082e-01 | -0.1897e+00 | -0.9783e+02 |
| 23 | 1887 | 1927 | 0.2551e-03 | 0.1616e-01 | 0.1090e-01 | -0.1875e+00 | -0.7406e+02 |
| 24 | 1888 | 1928 | 0.2512e-03 | 0.1606e-01 | 0.1086e-01 | -0.1851e+00 | -0.9482e+02 |
| 25 | 1889 | 1929 | 0.2595e-03 | 0.1634e-01 | 0.1143e-01 | -0.1851e+00 | -0.7904e+02 |
| 26 | 1890 | 1930 | 0.2731e-03 | 0.1632e-01 | 0.1189e-01 | -0.1851e+00 | -0.8450e+02 |
| 27 | 1891 | 1931 | 0.2979e-03 | 0.1766e-01 | 0.1281e-01 | -0.1851e+00 | -0.8797e+02 |
| 28 | 1892 | 1932 | 0.3163e-03 | 0.1832e-01 | 0.1348e-01 | -0.1851e+00 | -0.8213e+02 |
| 29 | 1893 | 1933 | 0.3230e-03 | 0.1861e-01 | 0.1393e-01 | -0.1851e+00 | -0.8541e+02 |
| 30 | 1894 | 1934 | 0.3233e-03 | 0.1867e-01 | 0.1413e-01 | -0.1851e+00 | -0.7520e+02 |
| 31 | 1895 | 1935 | 0.3239e-03 | 0.1867e-01 | 0.1418e-01 | -0.1851e+00 | -0.7825e+02 |
| 32 | 1896 | 1936 | 0.3250e-03 | 0.1868e-01 | 0.1423e-01 | -0.1851e+00 | -0.7359e+02 |
| 33 | 1897 | 1937 | 0.3198e-03 | 0.1843e-01 | 0.1406e-01 | -0.1789e+00 | -0.7110e+02 |
| 34 | 1898 | 1938 | 0.3210e-03 | 0.1845e-01 | 0.1418e-01 | -0.1754e+00 | -0.6296e+02 |
| 35 | 1899 | 1939 | 0.2741e-03 | 0.1714e-01 | 0.1258e-01 | -0.1105e+00 | -0.3714e+02 |
| 36 | 1900 | 1940 | 0.2704e-03 | 0.1712e-01 | 0.1253e-01 | -0.1100e+00 | -0.2683e+02 |
| 37 | 1901 | 1941 | 0.2696e-03 | 0.1712e-01 | 0.1250e-01 | -0.1100e+00 | -0.2165e+02 |
| 38 | 1902 | 1942 | 0.2682e-03 | 0.1713e-01 | 0.1253e-01 | -0.1100e+00 | -0.2177e+02 |
| 39 | 1903 | 1943 | 0.2655e-03 | 0.1714e-01 | 0.1265e-01 | -0.1090e+00 | -0.2457e+02 |
| 40 | 1904 | 1944 | 0.2667e-03 | 0.1727e-01 | 0.1305e-01 | -0.1090e+00 | -0.2188e+02 |
| 41 | 1905 | 1945 | 0.2650e-03 | 0.1725e-01 | 0.1301e-01 | -0.1086e+00 | -0.2025e+02 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.1000e+01 | 0.1365e-07 | 0.5000e+00 | 0.1452e-18 |
| 0.1000e+01 | 0.2317e+03 | -0.3364e-01 | -0.3042e+01 |
| 0.9999e+00 | 0.2563e+03 | -0.3211e-01 | -0.3628e+01 |
| 0.9995e+00 | 0.2526e+03 | -0.3053e-01 | -0.3538e+01 |
| 0.9995e+00 | 0.3062e+03 | -0.3053e-01 | -0.3402e+01 |
| 0.9995e+00 | 0.3161e+03 | -0.3053e-01 | -0.4577e+01 |
| 0.9995e+00 | 0.3613e+03 | -0.3053e-01 | -0.8470e+01 |
| 0.9991e+00 | 0.4377e+03 | -0.3268e-01 | -0.1099e+02 |
| 0.9991e+00 | 0.4708e+03 | -0.3268e-01 | -0.1148e+02 |
| 0.9991e+00 | 0.4503e+03 | -0.3268e-01 | -0.1236e+02 |
| 0.9981e+00 | 0.5939e+03 | -0.3885e-01 | -0.1531e+02 |
| 0.9783e+00 | 0.6136e+03 | -0.1445e+00 | -0.5555e+02 |
| 0.9779e+00 | 0.6647e+03 | -0.1445e+00 | -0.7504e+02 |
| 0.9779e+00 | 0.4927e+03 | -0.1445e+00 | -0.6918e+02 |
| 0.9251e+00 | 0.5504e+03 | -0.2476e+00 | -0.1371e+03 |
| 0.9251e+00 | 0.4787e+03 | -0.2476e+00 | -0.1115e+03 |
| 0.9245e+00 | 0.7343e+03 | -0.2475e+00 | -0.1348e+03 |
| 0.9245e+00 | 0.7196e+03 | -0.2475e+00 | -0.1149e+03 |
| 0.9236e+00 | 0.7488e+03 | -0.2453e+00 | -0.1442e+03 |
| 0.9216e+00 | 0.7513e+03 | -0.2356e+00 | -0.1342e+03 |
| 0.9202e+00 | 0.6680e+03 | -0.2244e+00 | -0.1254e+03 |
| 0.9190e+00 | 0.7172e+03 | -0.2180e+00 | -0.1228e+03 |
| 0.9183e+00 | 0.7437e+03 | -0.2159e+00 | -0.3022e+02 |
| 0.9175e+00 | 0.9163e+03 | -0.2135e+00 | -0.1053e+03 |
| 0.9175e+00 | 0.9010e+03 | -0.2135e+00 | -0.8930e+02 |
| 0.9175e+00 | 0.1026e+04 | -0.2135e+00 | -0.9609e+02 |
| 0.9175e+00 | 0.1026e+04 | -0.2135e+00 | -0.9932e+02 |
| 0.9175e+00 | 0.1005e+04 | -0.2135e+00 | -0.8790e+02 |
| 0.9175e+00 | 0.1037e+04 | -0.2135e+00 | -0.9147e+02 |
| 0.9175e+00 | 0.1057e+04 | -0.2135e+00 | -0.7810e+02 |
| 0.9175e+00 | 0.1136e+04 | -0.2135e+00 | -0.8627e+02 |
| 0.9175e+00 | 0.1092e+04 | -0.2135e+00 | -0.7928e+02 |
| 0.9156e+00 | 0.1122e+04 | -0.2071e+00 | -0.8085e+02 |
| 0.9148e+00 | 0.1018e+04 | -0.2035e+00 | -0.6894e+02 |
| 0.8964e+00 | 0.9868e+03 | -0.1371e+00 | -0.4663e+02 |
| 0.8955e+00 | 0.7850e+03 | -0.1366e+00 | -0.3478e+02 |
| 0.8955e+00 | 0.7881e+03 | -0.1366e+00 | -0.3040e+02 |
| 0.8955e+00 | 0.6358e+03 | -0.1366e+00 | -0.2464e+02 |
| 0.8942e+00 | 0.7449e+03 | -0.1357e+00 | -0.2917e+02 |
| 0.8942e+00 | 0.6622e+03 | -0.1357e+00 | -0.2553e+02 |
| 0.8926e+00 | 0.6489e+03 | -0.1354e+00 | -0.2440e+02 |

Italy, lag 15 years, 1876-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1876 | 1916 | 0.1814e-03 | 0.2090e-01 | 0.1796e-01 | -0.4971e-01 | -0.4693e+01 |
| 2 | 1877 | 1917 | 0.3724e-03 | 0.2287e-01 | 0.1342e-01 | -0.5472e-01 | -0.5696e+01 |
| 3 | 1878 | 1918 | 0.2093e-03 | 0.1485e-01 | 0.8614e-02 | -0.1099e+00 | -0.1924e+02 |
| 4 | 1879 | 1919 | 0.2425e-03 | 0.1601e-01 | 0.9223e-02 | -0.1099e+00 | -0.1567e+02 |
| 5 | 1880 | 1920 | 0.2299e-03 | 0.1549e-01 | 0.8831e-02 | -0.1099e+00 | -0.2666e+02 |
| 6 | 1881 | 1921 | 0.2227e-03 | 0.1542e-01 | 0.8507e-02 | -0.1130e+00 | -0.3720e+02 |
| 7 | 1882 | 1922 | 0.2171e-03 | 0.1546e-01 | 0.8403e-02 | -0.1179e+00 | -0.4257e+02 |
| 8 | 1883 | 1923 | 0.2181e-03 | 0.1548e-01 | 0.8328e-02 | -0.1179e+00 | -0.4591e+02 |
| 9 | 1884 | 1924 | 0.2134e-03 | 0.1551e-01 | 0.8389e-02 | -0.1210e+00 | -0.4656e+02 |
| 10 | 1885 | 1925 | 0.2099e-03 | 0.1554e-01 | 0.8437e-02 | -0.1225e+00 | -0.5464e+02 |
| 11 | 1886 | 1926 | 0.2058e-03 | 0.1564e-01 | 0.8493e-02 | -0.1255e+00 | -0.5799e+02 |
| 12 | 1887 | 1927 | 0.2042e-03 | 0.1571e-01 | 0.8632e-02 | -0.1255e+00 | -0.6998e+02 |
| 13 | 1888 | 1928 | 0.2000e-03 | 0.1592e-01 | 0.8872e-02 | -0.1296e+00 | -0.7298e+02 |
| 14 | 1889 | 1929 | 0.1991e-03 | 0.1611e-01 | 0.9200e-02 | -0.1296e+00 | -0.8364e+02 |
| 15 | 1890 | 1930 | 0.1964e-03 | 0.1611e-01 | 0.9298e-02 | -0.1296e+00 | -0.7271e+02 |
| 16 | 1891 | 1931 | 0.1948e-03 | 0.1628e-01 | 0.9567e-02 | -0.1296e+00 | -0.7833e+02 |
| 17 | 1892 | 1932 | 0.1914e-03 | 0.1637e-01 | 0.9778e-02 | -0.1296e+00 | -0.7271e+02 |
| 18 | 1893 | 1933 | 0.1870e-03 | 0.1646e-01 | 0.9971e-02 | -0.1296e+00 | -0.3589e+02 |
| 19 | 1894 | 1934 | 0.1839e-03 | 0.1652e-01 | 0.1015e-01 | -0.1296e+00 | -0.8308e+02 |
| 20 | 1895 | 1935 | 0.1780e-03 | 0.1657e-01 | 0.1023e-01 | -0.1310e+00 | -0.8665e+02 |
| 21 | 1896 | 1936 | 0.1758e-03 | 0.1660e-01 | 0.1039e-01 | -0.1310e+00 | -0.8507e+02 |
| 22 | 1897 | 1937 | 0.1759e-03 | 0.1669e-01 | 0.1060e-01 | -0.1310e+00 | -0.6345e+02 |
| 23 | 1898 | 1938 | 0.1739e-03 | 0.1680e-01 | 0.1088e-01 | -0.1310e+00 | -0.7867e+02 |
| 24 | 1899 | 1939 | 0.1734e-03 | 0.1728e-01 | 0.1183e-01 | -0.1310e+00 | -0.6374e+02 |
| 25 | 1900 | 1940 | 0.1768e-03 | 0.1765e-01 | 0.1192e-01 | -0.1310e+00 | -0.6780e+02 |
| 26 | 1901 | 1941 | 0.1952e-03 | 0.1880e-01 | 0.1319e-01 | -0.1310e+00 | -0.7040e+02 |
| 27 | 1902 | 1942 | 0.1979e-03 | 0.1940e-01 | 0.1359e-01 | -0.1310e+00 | -0.6689e+02 |
| 28 | 1903 | 1943 | 0.2078e-03 | 0.2019e-01 | 0.1438e-01 | -0.1310e+00 | -0.6295e+02 |
| 29 | 1904 | 1944 | 0.2128e-03 | 0.2082e-01 | 0.1509e-01 | -0.1310e+00 | -0.6308e+02 |
| 30 | 1905 | 1945 | 0.2140e-03 | 0.2131e-01 | 0.1592e-01 | -0.1310e+00 | -0.6432e+02 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9532e+00 | 0.2476e+03 | -0.8139e-01 | -0.6505e+01 |
| 0.9499e+00 | 0.1809e+03 | -0.8604e-01 | -0.7653e+01 |
| 0.5369e+00 | 0.1327e+03 | -0.6380e-01 | -0.9107e+01 |
| 0.5360e+00 | 0.1429e+03 | -0.6392e-01 | -0.7792e+01 |
| 0.5360e+00 | 0.1315e+03 | -0.6392e-01 | -0.1219e+02 |
| 0.5346e+00 | 0.1568e+03 | -0.6702e-01 | -0.1927e+02 |
| 0.5324e+00 | 0.1635e+03 | -0.7164e-01 | -0.2353e+02 |
| 0.5324e+00 | 0.1756e+03 | -0.7164e-01 | -0.2471e+02 |
| 0.5311e+00 | 0.1808e+03 | -0.7462e-01 | -0.2634e+02 |
| 0.5298e+00 | 0.1922e+03 | -0.7592e-01 | -0.2958e+02 |
| 0.5285e+00 | 0.2156e+03 | -0.7893e-01 | -0.3106e+02 |
| 0.5285e+00 | 0.2387e+03 | -0.7893e-01 | -0.3970e+02 |
| 0.5265e+00 | 0.2709e+03 | -0.8284e-01 | -0.4094e+02 |
| 0.5265e+00 | 0.2797e+03 | -0.8284e-01 | -0.4872e+02 |
| 0.5265e+00 | 0.3217e+03 | -0.8284e-01 | -0.4130e+02 |
| 0.5265e+00 | 0.3408e+03 | -0.8284e-01 | -0.4594e+02 |
| 0.5265e+00 | 0.3515e+03 | -0.8284e-01 | -0.4105e+02 |
| 0.5265e+00 | 0.3809e+03 | -0.8284e-01 | -0.5056e+02 |
| 0.5265e+00 | 0.3952e+03 | -0.8284e-01 | -0.4930e+02 |
| 0.5248e+00 | 0.3985e+03 | -0.8400e-01 | -0.5119e+02 |
| 0.5248e+00 | 0.4068e+03 | -0.8400e-01 | -0.5072e+02 |
| 0.5248e+00 | 0.3868e+03 | -0.8400e-01 | -0.3446e+02 |
| 0.5248e+00 | 0.4271e+03 | -0.8400e-01 | -0.4589e+02 |
| 0.5248e+00 | 0.4329e+03 | -0.8400e-01 | -0.3735e+02 |
| 0.5248e+00 | 0.4293e+03 | -0.8400e-01 | -0.4108e+02 |
| 0.5248e+00 | 0.4381e+03 | -0.8400e-01 | -0.4216e+02 |
| 0.5248e+00 | 0.4125e+03 | -0.8400e-01 | -0.3935e+02 |
| 0.5248e+00 | 0.4286e+03 | -0.8400e-01 | -0.4037e+02 |
| 0.5248e+00 | 0.4306e+03 | -0.8400e-01 | -0.3631e+02 |
| 0.5248e+00 | 0.4294e+03 | -0.8400e-01 | -0.3845e+02 |

Italy, lag 20 years, 1881-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1881 | 1921 | 0.2748e-03 | 0.2331e-01 | 0.1642e-01 | -0.1226e+00 | -0.9807e+01 |
| 2 | 1882 | 1922 | 0.2649e-03 | 0.2324e-01 | 0.1647e-01 | -0.1246e+00 | -0.1251e+02 |
| 3 | 1883 | 1923 | 0.2604e-03 | 0.2285e-01 | 0.1606e-01 | -0.1246e+00 | -0.1334e+02 |
| 4 | 1884 | 1924 | 0.2529e-03 | 0.2284e-01 | 0.1623e-01 | -0.1262e+00 | -0.1015e+02 |
| 5 | 1885 | 1925 | 0.2511e-03 | 0.2252e-01 | 0.1597e-01 | -0.1263e+00 | -0.1780e+02 |
| 6 | 1886 | 1926 | 0.2434e-03 | 0.2301e-01 | 0.1674e-01 | -0.1299e+00 | -0.3517e+02 |
| 7 | 1887 | 1927 | 0.2443e-03 | 0.2307e-01 | 0.1678e-01 | -0.1299e+00 | -0.3857e+02 |
| 8 | 1888 | 1928 | 0.2417e-03 | 0.2365e-01 | 0.1769e-01 | -0.1333e+00 | -0.4021e+02 |
| 9 | 1889 | 1929 | 0.2427e-03 | 0.2384e-01 | 0.1790e-01 | -0.1333e+00 | -0.4088e+02 |
| 10 | 1890 | 1930 | 0.2402e-03 | 0.2369e-01 | 0.1775e-01 | -0.1331e+00 | -0.4218e+02 |
| 11 | 1891 | 1931 | 0.2404e-03 | 0.2407e-01 | 0.1825e-01 | -0.1346e+00 | -0.3963e+02 |
| 12 | 1892 | 1932 | 0.2388e-03 | 0.2473e-01 | 0.1921e-01 | -0.1331e+00 | -0.5491e+02 |
| 13 | 1893 | 1933 | 0.2370e-03 | 0.2495e-01 | 0.1954e-01 | -0.1381e+00 | -0.5490e+02 |
| 14 | 1894 | 1934 | 0.2354e-03 | 0.2515e-01 | 0.1985e-01 | -0.1381e+00 | -0.6799e+02 |
| 15 | 1895 | 1935 | 0.2331e-03 | 0.2527e-01 | 0.2005e-01 | -0.1381e+00 | -0.6106e+02 |
| 16 | 1896 | 1936 | 0.2309e-03 | 0.2537e-01 | 0.2024e-01 | -0.1381e+00 | -0.6745e+02 |
| 17 | 1897 | 1937 | 0.2292e-03 | 0.2545e-01 | 0.2038e-01 | -0.1381e+00 | -0.6114e+02 |
| 18 | 1898 | 1938 | 0.2303e-03 | 0.2541e-01 | 0.2031e-01 | -0.1381e+00 | -0.7368e+02 |
| 19 | 1899 | 1939 | 0.2330e-03 | 0.2539e-01 | 0.2021e-01 | -0.1381e+00 | -0.6657e+02 |
| 20 | 1900 | 1940 | 0.2375e-03 | 0.2519e-01 | 0.1979e-01 | -0.1369e+00 | -0.7159e+02 |
| 21 | 1901 | 1941 | 0.2377e-03 | 0.2511e-01 | 0.1968e-01 | -0.1369e+00 | -0.6403e+02 |
| 22 | 1902 | 1942 | 0.2377e-03 | 0.2514e-01 | 0.1972e-01 | -0.1369e+00 | -0.4723e+02 |
| 23 | 1903 | 1943 | 0.2409e-03 | 0.2554e-01 | 0.2016e-01 | -0.1369e+00 | -0.6301e+02 |
| 24 | 1904 | 1944 | 0.2584e-03 | 0.2658e-01 | 0.2104e-01 | -0.1369e+00 | -0.5026e+02 |
| 25 | 1905 | 1945 | 0.2854e-03 | 0.2797e-01 | 0.2225e-01 | -0.1356e+00 | -0.5203e+02 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.8384e+00 | 0.1407e+03 | -0.1585e+00 | -0.1178e+02 |
| 0.8366e+00 | 0.1472e+03 | -0.1603e+00 | -0.1636e+02 |
| 0.8366e+00 | 0.1539e+03 | -0.1603e+00 | -0.1565e+02 |
| 0.8358e+00 | 0.1635e+03 | -0.1617e+00 | -0.1403e+02 |
| 0.8342e+00 | 0.1529e+03 | -0.1613e+00 | -0.1959e+02 |
| 0.8327e+00 | 0.1922e+03 | -0.1652e+00 | -0.3910e+02 |
| 0.8327e+00 | 0.2068e+03 | -0.1652e+00 | -0.4465e+02 |
| 0.8302e+00 | 0.2397e+03 | -0.1689e+00 | -0.4568e+02 |
| 0.8302e+00 | 0.2430e+03 | -0.1689e+00 | -0.4704e+02 |
| 0.8289e+00 | 0.2706e+03 | -0.1687e+00 | -0.4786e+02 |
| 0.8280e+00 | 0.2777e+03 | -0.1704e+00 | -0.4239e+02 |
| 0.8255e+00 | 0.3158e+03 | -0.1740e+00 | -0.6322e+02 |
| 0.8255e+00 | 0.3165e+03 | -0.1740e+00 | -0.5931e+02 |
| 0.8255e+00 | 0.3466e+03 | -0.1740e+00 | -0.7841e+02 |
| 0.8255e+00 | 0.3657e+03 | -0.1740e+00 | -0.6728e+02 |
| 0.8255e+00 | 0.3808e+03 | -0.1740e+00 | -0.7905e+02 |
| 0.8255e+00 | 0.3911e+03 | -0.1740e+00 | -0.6739e+02 |
| 0.8255e+00 | 0.4122e+03 | -0.1740e+00 | -0.8653e+02 |
| 0.8255e+00 | 0.4460e+03 | -0.1740e+00 | -0.8184e+02 |
| 0.8250e+00 | 0.4076e+03 | -0.1729e+00 | -0.3372e+02 |
| 0.8250e+00 | 0.4410e+03 | -0.1729e+00 | -0.7993e+02 |
| 0.8250e+00 | 0.3637e+03 | -0.1729e+00 | -0.5029e+02 |
| 0.8250e+00 | 0.4639e+03 | -0.1729e+00 | -0.7353e+02 |
| 0.8250e+00 | 0.4139e+03 | -0.1729e+00 | -0.5909e+02 |
| 0.8237e+00 | 0.4243e+03 | -0.1721e+00 | -0.6302e+02 |

Italy, lag 25 years, 1886-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1886 | 1926 | 0.2019e-03 | 0.3013e-01 | 0.2656e-01 | -0.1417e+00 | -0.1170e+02 |
| 2 | 1387 | 1927 | 0.1963e-03 | 0.3036e-01 | 0.2687e-01 | -0.1435e+00 | -0.1467e+02 |
| 3 | 1888 | 1928 | 0.1959e-03 | 0.3032e-01 | 0.2683e-01 | -0.1435e+00 | -0.1524e+02 |
| 4 | 1889 | 1929 | 0.1960e-03 | 0.3035e-01 | 0.2686e-01 | -0.1435e+00 | -0.1207e+02 |
| 5 | 1890 | 1930 | 0.1968e-03 | 0.3012e-01 | 0.2659e-01 | -0.1435e+00 | -0.2007e+02 |
| 6 | 1891 | 1931 | 0.1905e-03 | 0.3035e-01 | 0.2695e-01 | -0.1452e+00 | -0.3672e+02 |
| 7 | 1892 | 1932 | 0.1883e-03 | 0.3119e-01 | 0.2793e-01 | -0.1491e+00 | -0.4104e+02 |
| 8 | 1893 | 1933 | 0.1877e-03 | 0.3132e-01 | 0.2809e-01 | -0.1491e+00 | -0.4264e+02 |
| 9 | 1894 | 1934 | 0.1863e-03 | 0.3141e-01 | 0.2821e-01 | -0.1501e+00 | -0.4240e+02 |
| 10 | 1895 | 1935 | 0.1862e-03 | 0.3140e-01 | 0.2820e-01 | -0.1501e+00 | -0.4507e+02 |
| 11 | 1896 | 1936 | 0.1840e-03 | 0.3191e-01 | 0.2881e-01 | -0.1535e+00 | -0.4477e+02 |
| 12 | 1397 | 1937 | 0.1837e-03 | 0.3198e-01 | 0.2890e-01 | -0.1535e+00 | -0.5497e+02 |
| 13 | 1898 | 1933 | 0.1839e-03 | 0.3191e-01 | 0.2881e-01 | -0.1535e+00 | -0.5784e+02 |
| 14 | 1899 | 1939 | 0.1839e-03 | 0.3211e-01 | 0.2907e-01 | -0.1554e+00 | -0.6736e+02 |
| 15 | 1900 | 1940 | 0.1850e-03 | 0.3191e-01 | 0.2879e-01 | -0.1551e+00 | -0.6158e+02 |
| 16 | 1901 | 1941 | 0.1850e-03 | 0.3209e-01 | 0.2904e-01 | -0.1562e+00 | -0.6640e+02 |
| 17 | 1902 | 1942 | 0.1843e-03 | 0.3215e-01 | 0.2912e-01 | -0.1562e+00 | -0.6198e+02 |
| 18 | 1903 | 1943 | 0.1827e-03 | 0.3220e-01 | 0.2920e-01 | -0.1562e+00 | -0.7339e+02 |
| 19 | 1904 | 1944 | 0.1794e-03 | 0.3213e-01 | 0.2919e-01 | -0.1551e+00 | -0.7053e+02 |
| 20 | 1905 | 1945 | 0.1790e-03 | 0.3224e-01 | 0.2927e-01 | -0.1551e+00 | -0.7196e+02 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.8237e+00 | 0.1232e+03 | -0.1796e+00 | -0.1234e+02 |
| 0.8226e+00 | 0.1394e+03 | -0.1812e+00 | -0.1720e+02 |
| 0.8226e+00 | 0.1514e+03 | -0.1812e+00 | -0.1670e+02 |
| 0.8226e+00 | 0.1653e+03 | -0.1812e+00 | -0.1492e+02 |
| 0.8226e+00 | 0.1637e+03 | -0.1812e+00 | -0.2132e+02 |
| 0.8219e+00 | 0.1910e+03 | -0.1828e+00 | -0.4258e+02 |
| 0.8198e+00 | 0.1947e+03 | -0.1867e+00 | -0.4929e+02 |
| 0.8198e+00 | 0.2029e+03 | -0.1867e+00 | -0.4986e+02 |
| 0.8183e+00 | 0.2036e+03 | -0.1875e+00 | -0.5084e+02 |
| 0.8183e+00 | 0.2199e+03 | -0.1875e+00 | -0.5249e+02 |
| 0.8165e+00 | 0.2244e+03 | -0.1910e+00 | -0.4938e+02 |
| 0.8165e+00 | 0.2495e+03 | -0.1910e+00 | -0.6573e+02 |
| 0.8165e+00 | 0.2455e+03 | -0.1910e+00 | -0.6486e+02 |
| 0.8154e+00 | 0.2860e+03 | -0.1927e+00 | -0.8021e+02 |
| 0.8145e+00 | 0.2576e+03 | -0.1923e+00 | -0.6984e+02 |
| 0.8135e+00 | 0.3206e+03 | -0.1934e+00 | -0.7990e+02 |
| 0.8135e+00 | 0.2669e+03 | -0.1934e+00 | -0.6953e+02 |
| 0.8135e+00 | 0.3445e+03 | -0.1934e+00 | -0.8822e+02 |
| 0.8128e+00 | 0.3165e+03 | -0.1924e+00 | -0.8577e+02 |
| 0.8128e+00 | 0.3121e+03 | -0.1924e+00 | -0.8615e+02 |

Netherlands, no lag x 1851-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1851 | 1891 | 0.8437e-04 | 0.3930e-01 | 0.3221e-01 | 0.9641e-01 | 0.1806e+00 |
| 2 | 1852 | 1892 | 0.9132e-04 | 0.3913e-01 | 0.3795e-01 | 0.9641e-01 | 0.1909e+00 |
| 3 | 1853 | 1893 | 0.9422e-04 | 0.3808e-01 | 0.3775e-01 | 0.9641e-01 | 0.2025e+00 |
| 4 | 1854 | 1894 | 0.9970e-04 | 0.3287e-01 | 0.3757e-01 | 0.9641e-01 | 0.2203e+00 |
| 5 | 1855 | 1895 | 0.1045e-03 | 0.3839e-01 | 0.3699e-01 | 0.9641e-01 | 0.3398e+00 |
| 6 | 1856 | 1896 | 0.1083e-03 | 0.3230e-01 | 0.3686e-01 | 0.9641e-01 | 0.3891e+00 |
| 7 | 1857 | 1897 | 0.1133e-03 | 0.3813e-01 | 0.3666e-01 | 0.9641e-01 | 0.4409e+00 |
| 8 | 1858 | 1898 | 0.1217e-03 | 0.3793e-01 | 0.3628e-01 | 0.9641e-01 | 0.4824e+00 |
| 9 | 1859 | 1899 | 0.1243e-03 | 0.3779e-01 | 0.3603e-01 | 0.9641e-01 | 0.5500e+00 |
| 10 | 1860 | 1900 | 0.1405e-03 | 0.3743e-01 | 0.3551e-01 | 0.9641e-01 | 0.6179e+00 |
| 11 | 1861 | 1901 | 0.1468e-03 | 0.3733e-01 | 0.3531e-01 | 0.9641e-01 | 0.7296e+00 |
| 12 | 1862 | 1902 | 0.1611e-03 | 0.3673e-01 | 0.3447e-01 | 0.9641e-01 | 0.9450e+00 |
| 13 | 1863 | 1903 | 0.1768e-03 | 0.3658e-01 | 0.3407e-01 | 0.9641e-01 | 0.9797e+00 |
| 14 | 1864 | 1904 | 0.1151e-03 | 0.2959e-01 | 0.2757e-01 | 0.9999e-02 | 0.1087e+00 |
| 15 | 1865 | 1905 | 0.1247e-03 | 0.2931e-01 | 0.2710e-01 | 0.9999e-02 | 0.1123e+00 |
| 16 | 1866 | 1906 | 0.1354e-03 | 0.2994e-01 | 0.2649e-01 | 0.9999e-02 | 0.1269e+00 |
| 17 | 1867 | 1907 | 0.1392e-03 | 0.2801e-01 | 0.2542e-01 | 0.5199e-03 | 0.7531e-02 |
| 18 | 1868 | 1908 | 0.7541e-04 | 0.2206e-01 | 0.2028e-01 | -0.9094e-01 | -0.1643e+01 |
| 19 | 1869 | 1909 | 0.7950e-04 | 0.2201e-01 | 0.2012e-01 | -0.9094e-01 | -0.2008e+01 |
| 20 | 1870 | 1910 | 0.8520e-04 | 0.2196e-01 | 0.1991e-01 | -0.9094e-01 | -0.2312e+01 |
| 21 | 1871 | 1911 | 0.9806e-04 | 0.2178e-01 | 0.1953e-01 | -0.9094e-01 | -0.2519e+01 |
| 22 | 1872 | 1912 | 0.9957e-04 | 0.2113e-01 | 0.1882e-01 | -0.1008e+00 | -0.3054e+01 |
| 23 | 1873 | 1913 | 0.9808e-04 | 0.2040e-01 | 0.1798e-01 | -0.1104e+00 | -0.3581e+01 |
| 24 | 1874 | 1914 | 0.9351e-04 | 0.1960e-01 | 0.1714e-01 | -0.1200e+00 | -0.3928e+01 |
| 25 | 1875 | 1915 | 0.9351e-04 | 0.1883e-01 | 0.1638e-01 | -0.1294e+00 | -0.4296e+01 |
| 26 | 1876 | 1916 | 0.8726e-04 | 0.1799e-01 | 0.1551e-01 | -0.1390e+00 | -0.4540e+01 |
| 27 | 1877 | 1917 | 0.7792e-04 | 0.1700e-01 | 0.1463e-01 | -0.1490e+00 | -0.4763e+01 |
| 28 | 1878 | 1918 | 0.7841e-04 | 0.1630e-01 | 0.1396e-01 | -0.1490e+00 | -0.4604e+01 |
| 29 | 1879 | 1919 | 0.9363e-04 | 0.1572e-01 | 0.1345e-01 | -0.1490e+00 | -0.4730e+01 |
| 30 | 1880 | 1920 | 0.7239e-04 | 0.1485e-01 | 0.1284e-01 | -0.1490e+00 | -0.4805e+01 |
| 31 | 1881 | 1921 | 0.6788e-04 | 0.1410e-01 | 0.1223e-01 | -0.1490e+00 | -0.4882e+01 |
| 32 | 1882 | 1922 | 0.7209e-04 | 0.1380e-01 | 0.1183e-01 | -0.1490e+00 | -0.5245e+01 |
| 33 | 1883 | 1923 | 0.7096e-04 | 0.1319e-01 | 0.1128e-01 | -0.1490e+00 | -0.5210e+01 |
| 34 | 1884 | 1924 | 0.7559e-04 | 0.1292e-01 | 0.1099e-01 | -0.1490e+00 | -0.5150e+01 |
| 35 | 1885 | 1925 | 0.8471e-04 | 0.1262e-01 | 0.1079e-01 | -0.1490e+00 | -0.5206e+01 |
| 36 | 1886 | 1926 | 0.9969e-04 | 0.1255e-01 | 0.1074e-01 | -0.1490e+00 | -0.5274e+01 |
| 37 | 1887 | 1927 | 0.1192e-03 | 0.1263e-01 | 0.1078e-01 | -0.1490e+00 | -0.5394e+01 |
| 38 | 1888 | 1928 | 0.1330e-03 | 0.1269e-01 | 0.1082e-01 | -0.1490e+00 | -0.5322e+01 |
| 39 | 1889 | 1929 | 0.1379e-03 | 0.1255e-01 | 0.1072e-01 | -0.1490e+00 | -0.4701e+01 |
| 40 | 1890 | 1930 | 0.1401e-03 | 0.1238e-01 | 0.1059e-01 | -0.1490e+00 | -0.4057e+01 |
| 41 | 1891 | 1931 | 0.1442e-03 | 0.1232e-01 | 0.1060e-01 | -0.1490e+00 | -0.3320e+01 |
| 42 | 1892 | 1932 | 0.1456e-03 | 0.1226e-01 | 0.1050e-01 | -0.1490e+00 | -0.2748e+01 |
| 43 | 1893 | 1933 | 0.1595e-03 | 0.1271e-01 | 0.1084e-01 | -0.1490e+00 | -0.2446e+01 |
| 44 | 1894 | 1934 | 0.1723e-03 | 0.1313e-01 | 0.1108e-01 | -0.1490e+00 | -0.2287e+01 |
| 45 | 1895 | 1935 | 0.1903e-03 | 0.1382e-01 | 0.1151e-01 | -0.1490e+00 | -0.2150e+01 |
| 46 | 1896 | 1936 | 0.2046e-03 | 0.1441e-01 | 0.1191e-01 | -0.1490e+00 | -0.2014e+01 |
| 47 | 1897 | 1937 | 0.2181e-03 | 0.1505e-01 | 0.1232e-01 | -0.1490e+00 | -0.1875e+01 |
| 48 | 1898 | 1938 | 0.2260e-03 | 0.1552e-01 | 0.1268e-01 | -0.1490e+00 | -0.1746e+01 |
| 49 | 1899 | 1939 | 0.2726e-03 | 0.1599e-01 | 0.1307e-01 | -0.1490e+00 | -0.1618e+01 |
| 50 | 1900 | 1940 | 0.2761e-03 | 0.1638e-01 | 0.1342e-01 | -0.1490e+00 | -0.1495e+01 |

Netherlands, lag 5 years, 1856-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1856 | 1896 | 0.9771e-04 | 0.3216e-01 | 0.3061e-01 | 0.2603e-01 | 0.5008e-01 |
| 2 | 1857 | 1897 | 0.9540e-04 | 0.3221e-01 | 0.3057e-01 | 0.2603e-01 | 0.5293e-01 |
| 3 | 1858 | 1898 | 0.9913e-04 | 0.3210e-01 | 0.3052e-01 | 0.2603e-01 | 0.5618e-01 |
| 4 | 1859 | 1899 | 0.9291e-04 | 0.3211e-01 | 0.3053e-01 | 0.2603e-01 | 0.6112e-01 |
| 5 | 1860 | 1900 | 0.1054e-03 | 0.3182e-01 | 0.3010e-01 | 0.2603e-01 | 0.9484e-01 |
| 6 | 1861 | 1901 | 0.1041e-03 | 0.3185e-01 | 0.3017e-01 | 0.2603e-01 | 0.1089e+00 |
| 7 | 1862 | 1902 | 0.1104e-03 | 0.3163e-01 | 0.2983e-01 | 0.2603e-01 | 0.1235e+00 |
| 8 | 1863 | 1903 | 0.1148e-03 | 0.3156e-01 | 0.2968e-01 | 0.2603e-01 | 0.1355e+00 |
| 9 | 1864 | 1904 | 0.1233e-03 | 0.3119e-01 | 0.2915e-01 | 0.2603e-01 | 0.1548e+00 |
| 10 | 1865 | 1905 | 0.1333e-03 | 0.3097e-01 | 0.2863e-01 | 0.2603e-01 | 0.1746e+00 |
| 11 | 1866 | 1906 | 0.1443e-03 | 0.3044e-01 | 0.2797e-01 | 0.2603e-01 | 0.2066e+00 |
| 12 | 1867 | 1907 | 0.1589e-03 | 0.3006e-01 | 0.2729e-01 | 0.2603e-01 | 0.2696e+00 |
| 13 | 1868 | 1908 | 0.1645e-03 | 0.2893e-01 | 0.2593e-01 | 0.1611e-01 | 0.1739e+00 |
| 14 | 1869 | 1909 | 0.1016e-03 | 0.2175e-01 | 0.1927e-01 | -0.7341e-01 | -0.8400e+00 |
| 15 | 1870 | 1910 | 0.1103e-03 | 0.2162e-01 | 0.1391e-01 | -0.7341e-01 | -0.8664e+00 |
| 16 | 1871 | 1911 | 0.1232e-03 | 0.2146e-01 | 0.1859e-01 | -0.7341e-01 | -0.9808e+00 |
| 17 | 1872 | 1912 | 0.1259e-03 | 0.2065e-01 | 0.1773e-01 | -0.8305e-01 | -0.1263e+01 |
| 18 | 1873 | 1913 | 0.6237e-04 | 0.1450e-01 | 0.1216e-01 | -0.1765e+00 | -0.3342e+01 |
| 19 | 1874 | 1914 | 0.6408e-04 | 0.1443e-01 | 0.1207e-01 | -0.1765e+00 | -0.4107e+01 |
| 20 | 1875 | 1915 | 0.7269e-04 | 0.1438e-01 | 0.1192e-01 | -0.1765e+00 | -0.4746e+01 |
| 21 | 1876 | 1916 | 0.7615e-04 | 0.1407e-01 | 0.1153e-01 | -0.1765e+00 | -0.5193e+01 |
| 22 | 1877 | 1917 | 0.7720e-04 | 0.1358e-01 | 0.1104e-01 | -0.1765e+00 | -0.5680e+01 |
| 23 | 1878 | 1918 | 0.7761e-04 | 0.1295e-01 | 0.1057e-01 | -0.1765e+00 | -0.6075e+01 |
| 24 | 1879 | 1919 | 0.7385e-04 | 0.1209e-01 | 0.1004e-01 | -0.1765e+00 | -0.6121e+01 |
| 25 | 1880 | 1920 | 0.5941e-04 | 0.1109e-01 | 0.9501e-02 | -0.1765e+00 | -0.6185e+01 |
| 26 | 1881 | 1921 | 0.5010e-04 | 0.1029e-01 | 0.8498e-02 | -0.1765e+00 | -0.6050e+01 |
| 27 | 1882 | 1922 | 0.4599e-04 | 0.9734e-02 | 0.8522e-02 | -0.1765e+00 | -0.5887e+01 |
| 28 | 1883 | 1923 | 0.4013e-04 | 0.9069e-02 | 0.8021e-02 | -0.1765e+00 | -0.5667e+01 |
| 29 | 1884 | 1924 | 0.4151e-04 | 0.8837e-02 | 0.7792e-02 | -0.1765e+00 | -0.5798e+01 |
| 30 | 1885 | 1925 | 0.4352e-04 | 0.8559e-02 | 0.7594e-02 | -0.1765e+00 | -0.5872e+01 |
| 31 | 1886 | 1926 | 0.4285e-04 | 0.8484e-02 | 0.7547e-02 | -0.1765e+00 | -0.5953e+01 |
| 32 | 1887 | 1927 | 0.5264e-04 | 0.8650e-02 | 0.7636e-02 | -0.1765e+00 | -0.6371e+01 |
| 33 | 1888 | 1928 | 0.6522e-04 | 0.8740e-02 | 0.7691e-02 | -0.1765e+00 | -0.6312e+01 |
| 34 | 1889 | 1929 | 0.7159e-04 | 0.8901e-02 | 0.7812e-02 | -0.1765e+00 | -0.6217e+01 |
| 35 | 1890 | 1930 | 0.2066e-04 | 0.9212e-02 | 0.8204e-02 | -0.1765e+00 | -0.6265e+01 |
| 36 | 1891 | 1931 | 0.9786e-04 | 0.9967e-02 | 0.8429e-02 | -0.1765e+00 | -0.6323e+01 |
| 37 | 1892 | 1932 | 0.1172e-03 | 0.1033e-01 | 0.8825e-02 | -0.1765e+00 | -0.6444e+01 |
| 38 | 1893 | 1933 | 0.1396e-03 | 0.1124e-01 | 0.9416e-02 | -0.1765e+00 | -0.6332e+01 |
| 39 | 1894 | 1934 | 0.1436e-03 | 0.1211e-01 | 0.9587e-02 | -0.1765e+00 | -0.5577e+01 |
| 40 | 1895 | 1935 | 0.1500e-03 | 0.1250e-01 | 0.9892e-02 | -0.1765e+00 | -0.4803e+01 |
| 41 | 1896 | 1936 | 0.1512e-03 | 0.1270e-01 | 0.1007e-01 | -0.1765e+00 | -0.3925e+01 |
| 42 | 1897 | 1937 | 0.1525e-03 | 0.1295e-01 | 0.1029e-01 | -0.1765e+00 | -0.3247e+01 |
| 43 | 1898 | 1938 | 0.1542e-03 | 0.1323e-01 | 0.1058e-01 | -0.1765e+00 | -0.2889e+01 |
| 44 | 1899 | 1939 | 0.1607e-03 | 0.1381e-01 | 0.1100e-01 | -0.1765e+00 | -0.2702e+01 |
| 45 | 1900 | 1940 | 0.1650e-03 | 0.1432e-01 | 0.1141e-01 | -0.1765e+00 | -0.2542e+01 |
| 46 | 1901 | 1941 | 0.1706e-03 | 0.1489e-01 | 0.1191e-01 | -0.1765e+00 | -0.2381e+01 |
| 47 | 1902 | 1942 | 0.1687e-03 | 0.1525e-01 | 0.1225e-01 | -0.1765e+00 | -0.2220e+01 |
| 48 | 1903 | 1943 | 0.1644e-03 | 0.1533e-01 | 0.1241e-01 | -0.1765e+00 | -0.2069e+01 |
| 49 | 1904 | 1944 | 0.1588e-03 | 0.1541e-01 | 0.1247e-01 | -0.1765e+00 | -0.1922e+01 |
| 50 | 1905 | 1945 | 0.1534e-03 | 0.1553e-01 | 0.1264e-01 | -0.1765e+00 | -0.1778e+01 |

Netherlands, lag 10 years, 1861-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | cC | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1861 | 1901 | 0.3797e-04 | 0.2455e-01 | 0.2269e-01 | -0.4249e-01 | -0.8376e-01 |
| 2 | 1862 | 1902 | 0.9037e-04 | 0.2447e-01 | 0.2255e-01 | -0.4249e-01 | -0.8855e-01 |
| 3 | 1863 | 1903 | 0.8917e-04 | 0.2443e-01 | 0.2259e-01 | -0.4249e-01 | -0.9412e-01 |
| 4 | 1864 | 1904 | 0.9367e-04 | 0.2431e-01 | 0.2230e-01 | -0.4249e-01 | -0.1024e+00 |
| 5 | 1865 | 1905 | 0.9633e-04 | 0.2427e-01 | 0.2220e-01 | -0.4249e-01 | -0.1600e+00 |
| 6 | 1866 | 1906 | 0.1035e-03 | 0.2406e-01 | 0.2180e-01 | -0.4249e-01 | -0.1840e+00 |
| 7 | 1867 | 1907 | 0.1117e-03 | 0.2391e-01 | 0.2144e-01 | -0.4249e-01 | -0.2093e+00 |
| 8 | 1868 | 1908 | 0.1208e-03 | 0.2364e-01 | 0.2098e-01 | -0.4249e-01 | -0.2297e+00 |
| 9 | 1869 | 1909 | 0.1322e-03 | 0.2352e-01 | 0.2057e-01 | -0.4249e-01 | -0.2628e+00 |
| 10 | 1870 | 1910 | 0.1469e-03 | 0.2343e-01 | 0.2034e-01 | -0.4249e-01 | -0.2966e+00 |
| 11 | 1871 | 1911 | 0.1667e-03 | 0.2325e-01 | 0.2005e-01 | -0.4249e-01 | -0.3515e+00 |
| 12 | 1872 | 1912 | 0.1724e-03 | 0.2231e-01 | 0.1902e-01 | -0.5244e-01 | -0.5717e+00 |
| 13 | 1873 | 1913 | 0.1804e-03 | 0.1480e-01 | 0.1203e-01 | -0.1440e+00 | -0.1686e+01 |
| 14 | 1874 | 1914 | 0.9801e-04 | 0.1433e-01 | 0.1150e-01 | -0.1440e+00 | -0.1711e+01 |
| 15 | 1875 | 1915 | 0.1027e-03 | 0.1390e-01 | 0.1113e-01 | -0.1440e+00 | -0.1765e+01 |
| 16 | 1876 | 1916 | 0.1065e-03 | 0.1365e-01 | 0.1084e-01 | -0.1440e+00 | -0.2005e+01 |
| 17 | 1877 | 1917 | 0.1033e-03 | 0.1323e-01 | 0.1048e-01 | -0.1440e+00 | -0.2239e+01 |
| 18 | 1878 | 1918 | 0.1137e-03 | 0.1292e-01 | 0.1025e-01 | -0.1440e+00 | -0.2752e+01 |
| 19 | 1879 | 1919 | 0.1207e-03 | 0.1269e-01 | 0.1010e-01 | -0.1440e+00 | -0.3395e+01 |
| 20 | 1880 | 1920 | 0.1057e-03 | 0.1172e-01 | 0.9371e-02 | -0.1440e+00 | -0.3936e+01 |
| 21 | 1881 | 1921 | 0.9503e-04 | 0.1090e-01 | 0.8766e-02 | -0.1440e+00 | -0.4308e+01 |
| 22 | 1882 | 1922 | 0.9105e-04 | 0.1040e-01 | 0.8415e-02 | -0.1440e+00 | -0.4711e+01 |
| 23 | 1883 | 1923 | 0.8336e-04 | 0.9727e-02 | 0.7991e-02 | -0.1440e+00 | -0.5027e+01 |
| 24 | 1884 | 1924 | 0.7946e-04 | 0.9276e-02 | 0.7726e-02 | -0.1440e+00 | -0.5046e+01 |
| 25 | 1885 | 1925 | 0.7602e-04 | 0.8894e-02 | 0.7517e-02 | -0.1440e+00 | -0.5087e+01 |
| 26 | 1886 | 1926 | 0.7446e-04 | 0.8679e-02 | 0.7405e-02 | -0.1440e+00 | -0.4968e+01 |
| 27 | 1887 | 1927 | 0.7201e-04 | 0.8436e-02 | 0.7311e-02 | -0.1440e+00 | -0.4818e+01 |
| 28 | 1888 | 1928 | 0.7199e-04 | 0.8510e-02 | 0.7324e-02 | -0.1440e+00 | -0.4631e+01 |
| 29 | 1889 | 1929 | 0.7532e-04 | 0.8817e-02 | 0.7502e-02 | -0.1440e+00 | -0.4724e+01 |
| 30 | 1890 | 1930 | 0.7366e-04 | 0.9103e-02 | 0.7691e-02 | -0.1440e+00 | -0.4773e+01 |
| 31 | 1891 | 1931 | 0.7732e-04 | 0.9191e-02 | 0.7656e-02 | -0.1538e+00 | -0.5166e+01 |
| 32 | 1892 | 1932 | 0.8580e-04 | 0.9874e-02 | 0.8068e-02 | -0.1538e+00 | -0.5514e+01 |
| 33 | 1893 | 1933 | 0.3959e-04 | 0.1027e-01 | 0.8239e-02 | -0.1638e+00 | -0.5813e+01 |
| 34 | 1894 | 1934 | 0.9666e-04 | 0.1092e-01 | 0.8679e-02 | -0.1638e+00 | -0.5709e+01 |
| 35 | 1895 | 1935 | 0.1117e-03 | 0.1107e-01 | 0.9357e-02 | -0.1638e+00 | -0.5730e+01 |
| 36 | 1896 | 1936 | 0.1270e-03 | 0.1309e-01 | 0.1002e-01 | -0.1638e+00 | -0.5761e+01 |
| 37 | 1897 | 1937 | 0.1484e-03 | 0.1450e-01 | 0.1080e-01 | -0.1638e+00 | -0.5846e+01 |
| 38 | 1898 | 1938 | 0.1562e-03 | 0.1534e-01 | 0.1140e-01 | -0.1638e+00 | -0.5736e+01 |
| 39 | 1899 | 1939 | 0.1549e-03 | 0.1576e-01 | 0.1181e-01 | -0.1638e+00 | -0.5056e+01 |
| 40 | 1900 | 1940 | 0.1511e-03 | 0.1603e-01 | 0.1216e-01 | -0.1638e+00 | -0.4360e+01 |
| 41 | 1901 | 1941 | 0.1472e-03 | 0.1636e-01 | 0.1252e-01 | -0.1638e+00 | -0.3568e+01 |
| 42 | 1902 | 1942 | 0.1397e-03 | 0.1652e-01 | 0.1275e-01 | -0.1638e+00 | -0.2957e+01 |
| 43 | 1903 | 1943 | 0.1323e-03 | 0.1661e-01 | 0.1292e-01 | -0.1638e+00 | -0.2636e+01 |
| 44 | 1904 | 1944 | 0.1250e-03 | 0.1669e-01 | 0.1309e-01 | -0.1638e+00 | -0.2472e+01 |
| 45 | 1905 | 1945 | 0.1179e-03 | 0.1691e-01 | 0.1340e-01 | -0.1638e+00 | -0.2329e+01 |

Netherlands, lag 15 years, 1866-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1366 | 1906 | 0.1079e-03 | 0.2016e-01 | 0.1755e-01 | -0.7366e-01 | -0.1468e+00 |
| 2 | 1367 | 1907 | 0.1143e-03 | 0.2004e-01 | 0.1722e-01 | -0.7366e-01 | -0.1553e+00 |
| 3 | 1368 | 1908 | 0.1209e-03 | 0.1992e-01 | 0.1684e-01 | -0.7366e-01 | -0.1651e+00 |
| 4 | 1269 | 1909 | 0.1290e-03 | 0.1979e-01 | 0.1659e-01 | -0.7366e-01 | -0.1797e+00 |
| 5 | 1370 | 1910 | 0.1292e-03 | 0.1920e-01 | 0.1661e-01 | -0.7366e-01 | -0.2815e+00 |
| 6 | 1371 | 1911 | 0.1461e-03 | 0.1973e-01 | 0.1650e-01 | -0.7366e-01 | -0.3240e+00 |
| 7 | 1872 | 1912 | 0.1613e-03 | 0.1969e-01 | 0.1643e-01 | -0.7366e-01 | -0.3688e+00 |
| 8 | 1373 | 1913 | 0.1746e-03 | 0.1948e-01 | 0.1615e-01 | -0.7366e-01 | -0.4052e+00 |
| 9 | 1374 | 1914 | 0.1958e-03 | 0.1926e-01 | 0.1586e-01 | -0.7366e-01 | -0.4643e+00 |
| 10 | 1375 | 1915 | 0.2052e-03 | 0.1908e-01 | 0.1569e-01 | -0.7366e-01 | -0.5247e+00 |
| 11 | 1376 | 1916 | 0.2187e-03 | 0.1881e-01 | 0.1543e-01 | -0.7366e-01 | -0.6233e+00 |
| 12 | 1877 | 1917 | 0.2255e-03 | 0.1841e-01 | 0.1506e-01 | -0.7366e-01 | -0.8222e+00 |
| 13 | 1378 | 1918 | 0.1406e-03 | 0.1221e-01 | 0.9085e-02 | -0.1656e+00 | -0.1962e+01 |
| 14 | 1379 | 1919 | 0.1229e-03 | 0.1122e-01 | 0.8613e-02 | -0.1656e+00 | -0.1994e+01 |
| 15 | 1380 | 1920 | 0.9314e-04 | 0.9690e-02 | 0.7734e-02 | -0.1656e+00 | -0.2059e+01 |
| 16 | 1381 | 1921 | 0.8455e-04 | 0.9201e-02 | 0.7371e-02 | -0.1656e+00 | -0.2339e+01 |
| 17 | 1382 | 1922 | 0.2115e-04 | 0.9011e-02 | 0.7231e-02 | -0.1656e+00 | -0.2669e+01 |
| 18 | 1383 | 1923 | 0.7233e-04 | 0.8884e-02 | 0.7134e-02 | -0.1656e+00 | -0.3208e+01 |
| 19 | 1384 | 1924 | 0.3094e-04 | 0.9096e-02 | 0.7310e-02 | -0.1656e+00 | -0.3949e+01 |
| 20 | 1385 | 1925 | 0.2142e-04 | 0.9265e-02 | 0.7409e-02 | -0.1656e+00 | -0.4562e+01 |
| 21 | 1386 | 1926 | 0.3163e-04 | 0.9497e-02 | 0.7538e-02 | -0.1656e+00 | -0.4978e+01 |
| 22 | 1387 | 1927 | 0.3064e-04 | 0.9754e-02 | 0.7675e-02 | -0.1656e+00 | -0.5419e+01 |
| 23 | 1388 | 1928 | 0.3058e-04 | 0.1007e-01 | 0.7878e-02 | -0.1656e+00 | -0.5761e+01 |
| 24 | 1389 | 1929 | 0.7742e-04 | 0.1032e-01 | 0.8028e-02 | -0.1656e+00 | -0.5761e+01 |
| 25 | 1390 | 1930 | 0.7503e-04 | 0.1054e-01 | 0.8211e-02 | -0.1656e+00 | -0.5793e+01 |
| 26 | 1391 | 1931 | 0.7597e-04 | 0.1094e-01 | 0.8557e-02 | -0.1656e+00 | -0.5643e+01 |
| 27 | 1392 | 1932 | 0.7335e-04 | 0.1123e-01 | 0.8797e-02 | -0.1656e+00 | -0.5464e+01 |
| 28 | 1393 | 1933 | 0.7820e-04 | 0.1124e-01 | 0.9362e-02 | -0.1656e+00 | -0.5240e+01 |
| 29 | 1294 | 1934 | 0.8119e-04 | 0.1246e-01 | 0.9862e-02 | -0.1656e+00 | -0.5333e+01 |
| 30 | 1395 | 1935 | 0.2747e-04 | 0.1317e-01 | 0.1051e-01 | -0.1656e+00 | -0.5374e+01 |
| 31 | 1396 | 1936 | 0.9332e-04 | 0.1390e-01 | 0.1117e-01 | -0.1656e+00 | -0.5421e+01 |
| 32 | 1897 | 1937 | 0.1036e-03 | 0.1485e-01 | 0.1198e-01 | -0.1656e+00 | -0.5764e+01 |
| 33 | 1898 | 1938 | 0.1059e-03 | 0.1548e-01 | 0.1260e-01 | -0.1656e+00 | -0.5691e+01 |
| 34 | 1899 | 1939 | 0.1078e-03 | 0.1593e-01 | 0.1319e-01 | -0.1656e+00 | -0.5589e+01 |
| 35 | 1900 | 1940 | 0.1106e-03 | 0.1663e-01 | 0.1339e-01 | -0.1656e+00 | -0.5613e+01 |
| 36 | 1901 | 1941 | 0.1163e-03 | 0.1747e-01 | 0.1470e-01 | -0.1656e+00 | -0.5641e+01 |
| 37 | 1902 | 1942 | 0.1188e-03 | 0.1834e-01 | 0.1546e-01 | -0.1656e+00 | -0.5735e+01 |
| 38 | 1903 | 1943 | 0.1197e-03 | 0.1268e-01 | 0.1540e-01 | -0.1656e+00 | -0.5646e+01 |
| 39 | 1904 | 1944 | 0.1027e-03 | 0.1873e-01 | 0.1604e-01 | -0.1655e+00 | -0.4997e+01 |
| 40 | 1905 | 1945 | 0.9423e-04 | 0.1282e-01 | 0.1627e-01 | -0.1656e+00 | -0.4322e+01 |

Netherlands, lag 20 years, 1871-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1871 | 1911 | 0.1076e-03 | 0.1073e-01 | 0.7843e-02 | -0.1706e+00 | -0.3453e+00 |
| 2 | 1872 | 1912 | 0.1157e-03 | 0.1100e-01 | 0.8203e-02 | -0.1706e+00 | -0.3658e+00 |
| 3 | 1873 | 1913 | 0.1210e-03 | 0.1116e-01 | 0.8384e-02 | -0.1706e+00 | -0.3888e+00 |
| 4 | 1874 | 1914 | 0.1254e-03 | 0.1129e-01 | 0.8574e-02 | -0.1706e+00 | -0.4238e+00 |
| 5 | 1875 | 1915 | 0.1204e-03 | 0.1108e-01 | 0.8473e-02 | -0.1706e+00 | -0.6662e+00 |
| 6 | 1876 | 1916 | 0.1285e-03 | 0.1138e-01 | 0.8758e-02 | -0.1706e+00 | -0.7674e+00 |
| 7 | 1877 | 1917 | 0.1350e-03 | 0.1162e-01 | 0.8924e-02 | -0.1706e+00 | -0.8743e+00 |
| 8 | 1878 | 1918 | 0.1388e-03 | 0.1182e-01 | 0.9026e-02 | -0.1706e+00 | -0.9601e+00 |
| 9 | 1879 | 1919 | 0.1464e-03 | 0.1225e-01 | 0.9272e-02 | -0.1706e+00 | -0.1100e+01 |
| 10 | 1880 | 1920 | 0.1215e-03 | 0.1179e-01 | 0.8944e-02 | -0.1706e+00 | -0.1244e+01 |
| 11 | 1881 | 1921 | 0.1291e-03 | 0.1132e-01 | 0.8971e-02 | -0.1706e+00 | -0.1478e+01 |
| 12 | 1882 | 1922 | 0.1235e-03 | 0.1193e-01 | 0.9179e-02 | -0.1706e+00 | -0.1950e+01 |
| 13 | 1883 | 1923 | 0.1096e-03 | 0.1140e-01 | 0.8800e-02 | -0.1706e+00 | -0.2023e+01 |
| 14 | 1884 | 1924 | 0.9383e-04 | 0.1108e-01 | 0.8598e-02 | -0.1706e+00 | -0.2051e+01 |
| 15 | 1885 | 1925 | 0.7977e-04 | 0.1093e-01 | 0.8516e-02 | -0.1706e+00 | -0.2113e+01 |
| 16 | 1886 | 1926 | 0.7924e-04 | 0.1132e-01 | 0.8222e-02 | -0.1706e+00 | -0.2394e+01 |
| 17 | 1887 | 1927 | 0.7837e-04 | 0.1179e-01 | 0.9156e-02 | -0.1706e+00 | -0.2723e+01 |
| 18 | 1888 | 1928 | 0.8163e-04 | 0.1233e-01 | 0.9683e-02 | -0.1706e+00 | -0.3263e+01 |
| 19 | 1889 | 1929 | 0.8615e-04 | 0.1294e-01 | 0.1029e-01 | -0.1706e+00 | -0.4000e+01 |
| 20 | 1890 | 1930 | 0.3731e-04 | 0.1343e-01 | 0.1079e-01 | -0.1706e+00 | -0.4605e+01 |
| 21 | 1891 | 1931 | 0.9042e-04 | 0.1404e-01 | 0.1138e-01 | -0.1706e+00 | -0.5006e+01 |
| 22 | 1892 | 1932 | 0.8922e-04 | 0.1457e-01 | 0.1187e-01 | -0.1706e+00 | -0.5434e+01 |
| 23 | 1893 | 1933 | 0.9534e-04 | 0.1532e-01 | 0.1258e-01 | -0.1706e+00 | -0.5752e+01 |
| 24 | 1894 | 1934 | 0.9032e-04 | 0.1590e-01 | 0.1305e-01 | -0.1706e+00 | -0.5736e+01 |
| 25 | 1895 | 1935 | 0.4124e-04 | 0.1648e-01 | 0.1372e-01 | -0.1706e+00 | -0.5750e+01 |
| 26 | 1896 | 1936 | 0.8873e-04 | 0.1700e-01 | 0.1431e-01 | -0.1706e+00 | -0.5591e+01 |
| 27 | 1897 | 1937 | 0.8632e-04 | 0.1754e-01 | 0.1494e-01 | -0.1706e+00 | -0.5404e+01 |
| 28 | 1898 | 1938 | 0.8182e-04 | 0.1795e-01 | 0.1550e-01 | -0.1706e+00 | -0.5186e+01 |
| 29 | 1899 | 1939 | 0.2072e-04 | 0.1839e-01 | 0.1605e-01 | -0.1706e+00 | -0.5277e+01 |
| 30 | 1900 | 1940 | 0.7883e-04 | 0.1878e-01 | 0.1655e-01 | -0.1706e+00 | -0.5321e+01 |
| 31 | 1901 | 1941 | 0.7824e-04 | 0.1927e-01 | 0.1711e-01 | -0.1706e+00 | -0.5369e+01 |
| 32 | 1902 | 1942 | 0.7710e-04 | 0.1975e-01 | 0.1770e-01 | -0.1706e+00 | -0.5713e+01 |
| 33 | 1903 | 1943 | 0.7064e-04 | 0.1994e-01 | 0.1809e-01 | -0.1706e+00 | -0.5658e+01 |
| 34 | 1904 | 1944 | 0.6879e-04 | 0.1998e-01 | 0.1813e-01 | -0.1706e+00 | -0.5576e+01 |
| 35 | 1905 | 1945 | 0.6369e-04 | 0.2022e-01 | 0.1857e-01 | -0.1706e+00 | -0.5615e+01 |

Netherlands, lag 25 years, 1876-1945 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1876 | 1916 | 0.1110e-03 | 0.1455e-01 | 0.1266e-01 | -0.2350e+00 | -0.4735e+00 |
| 2 | 1877 | 1917 | 0.1078e-03 | 0.1503e-01 | 0.1303e-01 | -0.2350e+00 | -0.5006e+00 |
| 3 | 1878 | 1918 | 0.1036e-03 | 0.1559e-01 | 0.1352e-01 | -0.2350e+00 | -0.5315e+00 |
| 4 | 1879 | 1919 | 0.1037e-03 | 0.1625e-01 | 0.1412e-01 | -0.2350e+00 | -0.5790e+00 |
| 5 | 1880 | 1920 | 0.2167e-04 | 0.1547e-01 | 0.1360e-01 | -0.2350e+00 | -0.9088e+00 |
| 6 | 1881 | 1921 | 0.8924e-04 | 0.1570e-01 | 0.1399e-01 | -0.2350e+00 | -0.1046e+01 |
| 7 | 1882 | 1922 | 0.3992e-04 | 0.1613e-01 | 0.1450e-01 | -0.2350e+00 | -0.1189e+01 |
| 8 | 1883 | 1923 | 0.8404e-04 | 0.1651e-01 | 0.1494e-01 | -0.2350e+00 | -0.1305e+01 |
| 9 | 1884 | 1924 | 0.3661e-04 | 0.1700e-01 | 0.1543e-01 | -0.2350e+00 | -0.1492e+01 |
| 10 | 1885 | 1925 | 0.8947e-04 | 0.1770e-01 | 0.1617e-01 | -0.2350e+00 | -0.1681e+01 |
| 11 | 1886 | 1926 | 0.9650e-04 | 0.1839e-01 | 0.1675e-01 | -0.2350e+00 | -0.1990e+01 |
| 12 | 1887 | 1927 | 0.9733e-04 | 0.1851e-01 | 0.1686e-01 | -0.2350e+00 | -0.2090e+01 |
| 13 | 1888 | 1928 | 0.8411e-04 | 0.1872e-01 | 0.1716e-01 | -0.2350e+00 | -0.2700e+01 |
| 14 | 1889 | 1929 | 0.6493e-04 | 0.1893e-01 | 0.1739e-01 | -0.2350e+00 | -0.2729e+01 |
| 15 | 1890 | 1930 | 0.5229e-04 | 0.1917e-01 | 0.1775e-01 | -0.2350e+00 | -0.2811e+01 |
| 16 | 1891 | 1931 | 0.5373e-04 | 0.1943e-01 | 0.1802e-01 | -0.2350e+00 | -0.3176e+01 |
| 17 | 1892 | 1932 | 0.5157e-04 | 0.1978e-01 | 0.1843e-01 | -0.2350e+00 | -0.3609e+01 |
| 18 | 1893 | 1933 | 0.5537e-04 | 0.2012e-01 | 0.1870e-01 | -0.2350e+00 | -0.4305e+01 |
| 19 | 1894 | 1934 | 0.5030e-04 | 0.2058e-01 | 0.1911e-01 | -0.2350e+00 | -0.5250e+01 |
| 20 | 1895 | 1935 | 0.6141e-04 | 0.2107e-01 | 0.1956e-01 | -0.2350e+00 | -0.6011e+01 |
| 21 | 1896 | 1936 | 0.6029e-04 | 0.2153e-01 | 0.2013e-01 | -0.2350e+00 | -0.6515e+01 |
| 22 | 1897 | 1937 | 0.5906e-04 | 0.2211e-01 | 0.2073e-01 | -0.2350e+00 | -0.7044e+01 |
| 23 | 1898 | 1938 | 0.5474e-04 | 0.2249e-01 | 0.2123e-01 | -0.2350e+00 | -0.7450e+01 |
| 24 | 1899 | 1939 | 0.4724e-04 | 0.2281e-01 | 0.2175e-01 | -0.2350e+00 | -0.7443e+01 |
| 25 | 1900 | 1940 | 0.4334e-04 | 0.2297e-01 | 0.2201e-01 | -0.2350e+00 | -0.7479e+01 |
| 26 | 1901 | 1941 | 0.3913e-04 | 0.2315e-01 | 0.2229e-01 | -0.2350e+00 | -0.7293e+01 |
| 27 | 1902 | 1942 | 0.3519e-04 | 0.2325e-01 | 0.2248e-01 | -0.2350e+00 | -0.7078e+01 |
| 28 | 1903 | 1943 | 0.3606e-04 | 0.2324e-01 | 0.2245e-01 | -0.2350e+00 | -0.6825e+01 |
| 29 | 1904 | 1944 | 0.4236e-04 | 0.2314e-01 | 0.2220e-01 | -0.2350e+00 | -0.6973e+01 |
| 30 | 1905 | 1945 | 0.4513e-04 | 0.2306e-01 | 0.2206e-01 | -0.2350e+00 | -0.7058e+01 |

NetherInds, no lag, 1851-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1851 | 1891 | 0.1962e-03 | 0.7308e-01 | 0.7171e-01 | 0.1924e+00 | 0.2749e+01 |
| 2 | 1852 | 1892 | 0.2139e-03 | 0.7197e-01 | 0.7033e-01 | 0.1882e+00 | 0.2818e+01 |
| 3 | 1853 | 1893 | 0.2314e-03 | 0.7136e-01 | 0.6968e-01 | 0.1882e+00 | 0.2731e+01 |
| 4 | 1854 | 1894 | 0.2411e-03 | 0.6907e-01 | 0.6727e-01 | 0.1826e+00 | 0.2066e+01 |
| 5 | 1855 | 1895 | 0.2529e-03 | 0.6724e-01 | 0.6529e-01 | 0.1782e+00 | 0.1303e+02 |
| 6 | 1856 | 1896 | 0.2737e-03 | 0.6681e-01 | 0.6462e-01 | 0.1782e+00 | 0.1388e+02 |
| 7 | 1857 | 1897 | 0.1621e-03 | 0.3741e-01 | 0.3512e-01 | -0.9692e-02 | -0.1117e+01 |
| 8 | 1858 | 1898 | 0.1570e-03 | 0.3743e-01 | 0.3522e-01 | -0.9692e-02 | -0.1191e+01 |
| 9 | 1859 | 1899 | 0.1577e-03 | 0.3746e-01 | 0.3524e-01 | -0.9692e-02 | -0.1275e+01 |
| 10 | 1860 | 1900 | 0.1576e-03 | 0.3748e-01 | 0.3526e-01 | -0.9692e-02 | -0.1202e+01 |
| 11 | 1861 | 1901 | 0.1534e-03 | 0.3745e-01 | 0.3528e-01 | -0.9642e-02 | -0.2697e+01 |
| 12 | 1862 | 1902 | 0.1545e-03 | 0.3740e-01 | 0.3522e-01 | -0.9692e-02 | -0.3952e+01 |
| 13 | 1863 | 1903 | 0.1595e-03 | 0.3721e-01 | 0.3490e-01 | -0.9692e-02 | -0.4023e+01 |
| 14 | 1864 | 1904 | 0.1696e-03 | 0.7688e-01 | 0.3446e-01 | -0.9692e-02 | -0.3717e+01 |
| 15 | 1865 | 1905 | 0.1804e-03 | 0.3653e-01 | 0.3390e-01 | -0.9692e-02 | -0.5813e+01 |
| 16 | 1866 | 1906 | 0.1852e-03 | 0.3551e-01 | 0.3273e-01 | -0.1627e-01 | -0.1022e+02 |
| 17 | 1867 | 1907 | 0.1235e-03 | 0.2934e-01 | 0.2710e-01 | -0.7752e-01 | -0.5774e+02 |
| 18 | 1868 | 1908 | 0.1313e-03 | 0.2930e-01 | 0.2691e-01 | -0.7752e-01 | -0.6590e+02 |
| 19 | 1869 | 1909 | 0.1362e-03 | 0.2920e-01 | 0.2670e-01 | -0.7752e-01 | -0.7183e+02 |
| 20 | 1870 | 1910 | 0.1391e-03 | 0.2849e-01 | 0.2587e-01 | -0.8398e-01 | -0.8430e+02 |
| 21 | 1871 | 1911 | 0.8136e-04 | 0.2377e-01 | 0.2198e-01 | -0.1440e+00 | -0.1593e+03 |
| 22 | 1872 | 1912 | 0.9137e-04 | 0.2365e-01 | 0.2161e-01 | -0.1440e+00 | -0.1672e+03 |
| 23 | 1873 | 1913 | 0.9137e-04 | 0.2299e-01 | 0.2086e-01 | -0.1491e+00 | -0.2014e+03 |
| 24 | 1874 | 1914 | 0.9573e-04 | 0.2265e-01 | 0.2036e-01 | -0.1491e+00 | -0.2262e+03 |
| 25 | 1875 | 1915 | 0.9555e-04 | 0.2131e-01 | 0.1945e-01 | -0.1553e+00 | -0.2403e+03 |
| 26 | 1876 | 1916 | 0.1002e-03 | 0.2126e-01 | 0.1370e-01 | -0.1553e+00 | -0.2453e+03 |
| 27 | 1877 | 1917 | 0.9695e-04 | 0.2048e-01 | 0.1791e-01 | -0.1553e+00 | -0.2446e+03 |
| 28 | 1878 | 1918 | 0.8863e-04 | 0.1932e-01 | 0.1692e-01 | -0.1618e+00 | -0.2630e+03 |
| 29 | 1879 | 1919 | 0.9357e-04 | 0.1251e-01 | 0.1616e-01 | -0.1618e+00 | -0.2677e+03 |
| 30 | 1880 | 1920 | 0.9019e-04 | 0.1754e-01 | 0.1548e-01 | -0.1618e+00 | -0.2758e+03 |
| 31 | 1881 | 1921 | 0.7618e-04 | 0.1704e-01 | 0.1504e-01 | -0.1618e+00 | -0.3022e+03 |
| 32 | 1882 | 1922 | 0.8114e-04 | 0.1640e-01 | 0.1447e-01 | -0.1618e+00 | -0.3621e+03 |
| 33 | 1883 | 1923 | 0.8494e-04 | 0.1601e-01 | 0.1392e-01 | -0.1618e+00 | -0.3812e+03 |
| 34 | 1884 | 1924 | 0.8912e-04 | 0.1553e-01 | 0.1343e-01 | -0.1618e+00 | -0.3973e+03 |
| 35 | 1885 | 1925 | 0.1015e-03 | 0.1518e-01 | 0.1313e-01 | -0.1618e+00 | -0.3384e+03 |
| 36 | 1886 | 1926 | 0.1239e-03 | 0.1409e-01 | 0.1301e-01 | -0.1618e+00 | -0.3453e+03 |
| 37 | 1887 | 1927 | 0.1562e-03 | 0.1516e-01 | 0.1311e-01 | -0.1618e+00 | -0.3152e+03 |
| 38 | 1888 | 1928 | 0.1245e-03 | 0.1575e-01 | 0.1321e-01 | -0.1618e+00 | -0.2374e+03 |
| 39 | 1889 | 1929 | 0.1865e-03 | 0.1519e-01 | 0.1311e-01 | -0.1653e+00 | -0.2128e+03 |
| 40 | 1890 | 1930 | 0.1923e-03 | 0.1505e-01 | 0.1297e-01 | -0.1653e+00 | -0.1971e+03 |
| 41 | 1891 | 1931 | 0.1868e-03 | 0.1491e-01 | 0.1284e-01 | -0.1653e+00 | -0.1720e+03 |
| 42 | 1892 | 1932 | 0.1930e-03 | 0.1472e-01 | 0.1273e-01 | -0.1700e+00 | -0.1566e+03 |
| 43 | 1893 | 1933 | 0.2067e-03 | 0.1492e-01 | 0.1287e-01 | -0.1700e+00 | -0.1414e+03 |
| 44 | 1894 | 1934 | 0.2295e-03 | 0.1547e-01 | 0.1320e-01 | -0.1700e+00 | -0.1322e+03 |
| 45 | 1895 | 1935 | 0.2563e-03 | 0.1619e-01 | 0.1366e-01 | -0.1700e+00 | -0.1273e+03 |
| 46 | 1896 | 1936 | 0.2813e-03 | 0.1686e-01 | 0.1410e-01 | -0.1700e+00 | -0.1239e+03 |
| 47 | 1897 | 1937 | 0.3033e-03 | 0.1753e-01 | 0.1457e-01 | -0.1700e+00 | -0.1192e+03 |
| 48 | 1898 | 1938 | 0.3201e-03 | 0.1810e-01 | 0.1502e-01 | -0.1700e+00 | -0.1149e+03 |
| 49 | 1899 | 1939 | 0.3227e-03 | 0.1832e-01 | 0.1529e-01 | -0.1740e+00 | -0.1139e+03 |
| 50 | 1900 | 1940 | 0.3321e-03 | 0.1873e-01 | 0.1570e-01 | -0.1740e+00 | -0.1087e+03 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.1031e+01 | 0.1957e+03 | 0.1771e+00 | 0.2634e+01 |
| 0.1031e+01 | 0.1985e+03 | 0.1735e+00 | 0.2669e+01 |
| 0.1031e+01 | 0.2054e+03 | 0.1735e+00 | 0.2843e+01 |
| 0.1029e+01 | 0.2221e+03 | 0.1661e+00 | 0.4405e+01 |
| 0.1028e+01 | 0.3167e+03 | 0.1620e+00 | 0.1184e+02 |
| 0.1028e+01 | 0.3546e+03 | 0.1620e+00 | 0.1233e+02 |
| 0.9749e+00 | 0.6750e+03 | -0.2031e-01 | -0.2772e+01 |
| 0.9749e+00 | 0.6571e+03 | -0.2031e-01 | -0.2817e+01 |
| 0.9749e+00 | 0.8487e+03 | -0.2031e-01 | -0.3115e+01 |
| 0.9749e+00 | 0.8482e+03 | -0.2031e-01 | -0.3417e+01 |
| 0.9749e+00 | 0.1395e+04 | -0.2031e-01 | -0.3133e+01 |
| 0.9749e+00 | 0.1648e+04 | -0.2031e-01 | -0.9451e+01 |
| 0.9749e+00 | 0.1602e+04 | -0.2031e-01 | -0.9579e+01 |
| 0.9749e+00 | 0.1526e+04 | -0.2031e-01 | -0.9182e+01 |
| 0.9749e+00 | 0.1386e+04 | -0.2031e-01 | -0.1230e+02 |
| 0.9730e+00 | 0.1414e+04 | -0.2661e-01 | -0.1750e+02 |
| 0.9558e+00 | 0.1609e+04 | -0.8621e-01 | -0.6358e+02 |
| 0.9558e+00 | 0.1763e+04 | -0.8621e-01 | -0.6620e+02 |
| 0.9558e+00 | 0.1943e+04 | -0.8621e-01 | -0.7537e+02 |
| 0.9540e+00 | 0.2337e+04 | -0.9252e-01 | -0.1001e+03 |
| 0.9365e+00 | 0.2607e+04 | -0.1522e+00 | -0.1881e+03 |
| 0.9365e+00 | 0.2723e+04 | -0.1522e+00 | -0.1835e+03 |
| 0.9348e+00 | 0.2860e+04 | -0.1572e+00 | -0.2460e+03 |
| 0.9348e+00 | 0.2740e+04 | -0.1572e+00 | -0.2669e+03 |
| 0.9328e+00 | 0.2722e+04 | -0.1632e+00 | -0.3022e+03 |
| 0.9328e+00 | 0.2686e+04 | -0.1632e+00 | -0.3006e+03 |
| 0.9328e+00 | 0.2597e+04 | -0.1632e+00 | -0.3056e+03 |
| 0.9308e+00 | 0.2695e+04 | -0.1698e+00 | -0.3248e+03 |
| 0.9308e+00 | 0.2722e+04 | -0.1698e+00 | -0.3208e+03 |
| 0.9308e+00 | 0.2940e+04 | -0.1698e+00 | -0.3317e+03 |
| 0.9308e+00 | 0.2962e+04 | -0.1698e+00 | -0.3415e+03 |
| 0.9308e+00 | 0.3051e+04 | -0.1698e+00 | -0.4151e+03 |
| 0.9308e+00 | 0.3566e+04 | -0.1698e+00 | -0.4536e+03 |
| 0.9308e+00 | 0.3617e+04 | -0.1698e+00 | -0.4830e+03 |
| 0.9308e+00 | 0.3800e+04 | -0.1698e+00 | -0.4000e+03 |
| 0.9308e+00 | 0.3791e+04 | -0.1698e+00 | -0.4072e+03 |
| 0.9308e+00 | 0.3998e+04 | -0.1698e+00 | -0.3804e+03 |
| 0.9308e+00 | 0.3723e+04 | -0.1698e+00 | -0.2770e+03 |
| 0.9287e+00 | 0.3622e+04 | -0.1734e+00 | -0.2546e+03 |
| 0.9287e+00 | 0.3670e+04 | -0.1734e+00 | -0.2354e+03 |
| 0.9287e+00 | 0.3358e+04 | -0.1734e+00 | -0.2139e+03 |
| 0.9259e+00 | 0.3347e+04 | -0.1781e+00 | -0.1922e+03 |
| 0.9259e+00 | 0.3014e+04 | -0.1781e+00 | -0.1719e+03 |
| 0.9259e+00 | 0.2820e+04 | -0.1781e+00 | -0.1612e+03 |
| 0.9259e+00 | 0.2537e+04 | -0.1781e+00 | -0.1557e+03 |
| 0.9259e+00 | 0.2314e+04 | -0.1781e+00 | -0.1493e+03 |
| 0.9259e+00 | 0.2143e+04 | -0.1781e+00 | -0.1439e+03 |
| 0.9259e+00 | 0.1957e+04 | -0.1781e+00 | -0.1381e+03 |
| 0.9218e+00 | 0.1856e+04 | -0.1828e+00 | -0.1373e+03 |
| 0.9218e+00 | 0.1748e+04 | -0.1828e+00 | -0.1300e+03 |

Netherlands, last 5 years, 1956-1965 process order: 1

| NR. | From | To | objective | rmse-past | rmse-fut | co | t-test |
|-----|------|------|------------|------------|------------|------------|-------------|
| 1 | 1856 | 1856 | 0.1542e-03 | 0.4493e-01 | 0.4316e-01 | 0.4074e-01 | 0.6825e+00 |
| 2 | 1857 | 1857 | 0.1575e-03 | 0.4291e-01 | 0.4310e-01 | 0.4074e-01 | 0.7285e+00 |
| 3 | 1858 | 1858 | 0.1590e-03 | 0.4492e-01 | 0.4293e-01 | 0.4074e-01 | 0.6790e+00 |
| 4 | 1859 | 1859 | 0.1605e-03 | 0.4460e-01 | 0.4262e-01 | 0.4074e-01 | 0.2306e+01 |
| 5 | 1860 | 1900 | 0.1814e-03 | 0.4441e-01 | 0.4220e-01 | 0.4074e-01 | 0.3905e+01 |
| 6 | 1861 | 1901 | 0.1820e-03 | 0.4427e-01 | 0.4204e-01 | 0.4074e-01 | 0.4430e+01 |
| 7 | 1862 | 1902 | 0.1801e-03 | 0.4409e-01 | 0.4178e-01 | 0.4074e-01 | 0.496e+01 |
| 8 | 1863 | 1903 | 0.2055e-03 | 0.4294e-01 | 0.4042e-01 | 0.3532e-01 | 0.4751e+01 |
| 9 | 1864 | 1904 | 0.2211e-03 | 0.4247e-01 | 0.3971e-01 | 0.3532e-01 | 0.5134e+01 |
| 10 | 1865 | 1905 | 0.2204e-03 | 0.4105e-01 | 0.3908e-01 | 0.2901e-01 | 0.4006e+01 |
| 11 | 1866 | 1906 | 0.2497e-03 | 0.4529e-01 | 0.3725e-01 | 0.2901e-01 | 0.8222e+01 |
| 12 | 1867 | 1907 | 0.1807e-03 | 0.3355e-01 | 0.2978e-01 | 0.3038e-01 | 0.1311e+02 |
| 13 | 1868 | 1908 | 0.2021e-03 | 0.2699e-01 | 0.2936e-01 | 0.3038e-01 | 0.1334e+02 |
| 14 | 1869 | 1909 | 0.7051e-04 | 0.1526e-01 | 0.1271e-01 | 0.2015e+00 | -0.9874e+02 |
| 15 | 1870 | 1910 | 0.7814e-04 | 0.1536e-01 | 0.1299e-01 | 0.2015e+00 | -0.1572e+03 |
| 16 | 1871 | 1911 | 0.7435e-04 | 0.1526e-01 | 0.1305e-01 | 0.2015e+00 | -0.1633e+03 |
| 17 | 1872 | 1912 | 0.7131e-04 | 0.1536e-01 | 0.1293e-01 | 0.2015e+00 | -0.1780e+03 |
| 18 | 1873 | 1913 | 0.6770e-04 | 0.1535e-01 | 0.1291e-01 | 0.2015e+00 | -0.2105e+03 |
| 19 | 1874 | 1914 | 0.6271e-04 | 0.1531e-01 | 0.1286e-01 | 0.2015e+00 | -0.2361e+03 |
| 20 | 1875 | 1915 | 0.7172e-04 | 0.1491e-01 | 0.1239e-01 | 0.2054e+00 | -0.2626e+03 |
| 21 | 1876 | 1916 | 0.7667e-04 | 0.1449e-01 | 0.1184e-01 | 0.2054e+00 | -0.2741e+03 |
| 22 | 1877 | 1917 | 0.7703e-04 | 0.1397e-01 | 0.1121e-01 | 0.2054e+00 | -0.2779e+03 |
| 23 | 1878 | 1918 | 0.7710e-04 | 0.1225e-01 | 0.1059e-01 | 0.2054e+00 | -0.2590e+03 |
| 24 | 1879 | 1919 | 0.6055e-04 | 0.1217e-01 | 0.915e-02 | 0.2054e+00 | -0.1780e+03 |
| 25 | 1880 | 1920 | 0.4975e-04 | 0.1094e-01 | 0.943e-02 | 0.2054e+00 | -0.2997e+03 |
| 26 | 1881 | 1921 | 0.4745e-04 | 0.1046e-01 | 0.9217e-02 | 0.2054e+00 | -0.3843e+03 |
| 27 | 1882 | 1922 | 0.3701e-04 | 0.9210e-02 | 0.8909e-02 | 0.2054e+00 | -0.3810e+03 |
| 28 | 1883 | 1923 | 0.3600e-04 | 0.9443e-02 | 0.8583e-02 | 0.2054e+00 | -0.3708e+03 |
| 29 | 1884 | 1924 | 0.3622e-04 | 0.9212e-02 | 0.8265e-02 | 0.2054e+00 | -0.3797e+03 |
| 30 | 1885 | 1925 | 0.3647e-04 | 0.8990e-02 | 0.8052e-02 | 0.2054e+00 | -0.3727e+03 |
| 31 | 1886 | 1926 | 0.4050e-04 | 0.8602e-02 | 0.7983e-02 | 0.2054e+00 | -0.4160e+03 |
| 32 | 1887 | 1927 | 0.5451e-04 | 0.7550e-02 | 0.8119e-02 | 0.2054e+00 | -0.5186e+03 |
| 33 | 1888 | 1928 | 0.6457e-04 | 0.7472e-02 | 0.8277e-02 | 0.2054e+00 | -0.5272e+03 |
| 34 | 1889 | 1929 | 0.7200e-04 | 0.6946e-02 | 0.8382e-02 | 0.2054e+00 | -0.5464e+03 |
| 35 | 1890 | 1930 | 0.8210e-04 | 0.6756e-02 | 0.8925e-02 | 0.2054e+00 | -0.4653e+03 |
| 36 | 1891 | 1931 | 0.1023e-04 | 0.1032e-03 | 0.1528e-01 | 0.2054e+00 | -0.4730e+03 |
| 37 | 1892 | 1932 | 0.1261e-03 | 0.1177e-03 | 0.2117e-01 | 0.2054e+00 | -0.2457e+03 |
| 38 | 1893 | 1933 | 0.1276e-03 | 0.1204e-03 | 0.2276e-01 | 0.2054e+00 | -0.4191e+03 |
| 39 | 1894 | 1934 | 0.1620e-03 | 0.1234e-03 | 0.1652e-01 | 0.2054e+00 | -0.3250e+03 |
| 40 | 1895 | 1935 | 0.1841e-03 | 0.1618e-03 | 0.1873e-01 | 0.2054e+00 | -0.1901e+03 |
| 41 | 1896 | 1936 | 0.1764e-03 | 0.1756e-03 | 0.1802e-01 | 0.2054e+00 | -0.2457e+03 |
| 42 | 1897 | 1937 | 0.1726e-03 | 0.1709e-03 | 0.1963e-01 | 0.2054e+00 | -0.2157e+03 |
| 43 | 1898 | 1938 | 0.1612e-03 | 0.1714e-03 | 0.1133e-01 | 0.2054e+00 | -0.1931e+03 |
| 44 | 1899 | 1939 | 0.1693e-03 | 0.1463e-03 | 0.1173e-01 | 0.2054e+00 | -0.1801e+03 |
| 45 | 1900 | 1940 | 0.2117e-03 | 0.1505e-03 | 0.1213e-01 | 0.2087e+00 | -0.1785e+03 |
| 46 | 1901 | 1941 | 0.2069e-03 | 0.1557e-03 | 0.1260e-01 | 0.2087e+00 | -0.1734e+03 |
| 47 | 1902 | 1942 | 0.2124e-03 | 0.1606e-03 | 0.1297e-01 | 0.2087e+00 | -0.1674e+03 |
| 48 | 1903 | 1943 | 0.2002e-03 | 0.1606e-03 | 0.1313e-01 | 0.2087e+00 | -0.1625e+03 |
| 49 | 1904 | 1944 | 0.2054e-03 | 0.1605e-03 | 0.1312e-01 | 0.2087e+00 | -0.1559e+03 |
| 50 | 1905 | 1945 | 0.2017e-03 | 0.1611e-03 | 0.1323e-01 | 0.2087e+00 | -0.1492e+03 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9840e+00 | 0.3758e+03 | 0.3262e-01 | 0.7899e+00 |
| 0.9840e+00 | 0.3970e+03 | 0.3262e-01 | 0.7817e+00 |
| 0.9840e+00 | 0.4111e+03 | 0.3262e-01 | 0.8793e+00 |
| 0.9840e+00 | 0.4557e+03 | 0.3262e-01 | 0.1040e+01 |
| 0.9840e+00 | 0.6432e+03 | 0.3262e-01 | 0.3252e+01 |
| 0.9840e+00 | 0.9662e+03 | 0.3262e-01 | 0.3531e+01 |
| 0.9840e+00 | 0.1010e+04 | 0.3262e-01 | 0.4173e+01 |
| 0.9822e+00 | 0.1270e+04 | 0.2722e-01 | 0.3644e+01 |
| 0.9822e+00 | 0.1380e+04 | 0.2722e-01 | 0.3854e+01 |
| 0.9801e+00 | 0.1559e+04 | 0.2099e-01 | 0.3432e+01 |
| 0.9801e+00 | 0.1857e+04 | 0.2099e-01 | 0.3241e+01 |
| 0.9609e+00 | 0.3355e+04 | -0.3293e-01 | -0.2180e+02 |
| 0.9609e+00 | 0.2988e+04 | -0.3293e-01 | -0.2022e+02 |
| 0.9040e+00 | 0.3793e+04 | -0.1987e+00 | -0.1483e+03 |
| 0.9040e+00 | 0.3494e+04 | -0.1987e+00 | -0.1725e+03 |
| 0.9040e+00 | 0.3721e+04 | -0.1987e+00 | -0.1923e+03 |
| 0.9040e+00 | 0.4200e+04 | -0.1987e+00 | -0.1995e+03 |
| 0.9040e+00 | 0.4797e+04 | -0.1987e+00 | -0.2046e+03 |
| 0.9040e+00 | 0.6211e+04 | -0.1987e+00 | -0.2557e+03 |
| 0.9024e+00 | 0.6930e+04 | -0.2026e+00 | -0.3144e+03 |
| 0.9024e+00 | 0.7349e+04 | -0.2026e+00 | -0.3369e+03 |
| 0.9024e+00 | 0.7196e+04 | -0.2026e+00 | -0.3429e+03 |
| 0.9024e+00 | 0.8154e+04 | -0.2026e+00 | -0.3948e+03 |
| 0.9024e+00 | 0.8407e+04 | -0.2026e+00 | -0.4671e+03 |
| 0.9024e+00 | 0.9648e+04 | -0.2026e+00 | -0.4735e+03 |
| 0.9024e+00 | 0.7991e+04 | -0.2026e+00 | -0.4461e+03 |
| 0.9024e+00 | 0.7749e+04 | -0.2026e+00 | -0.4450e+03 |
| 0.9024e+00 | 0.8356e+04 | -0.2026e+00 | -0.4456e+03 |
| 0.9024e+00 | 0.8065e+04 | -0.2026e+00 | -0.4277e+03 |
| 0.9024e+00 | 0.3771e+04 | -0.2026e+00 | -0.4521e+03 |
| 0.9024e+00 | 0.8582e+04 | -0.2026e+00 | -0.4649e+03 |
| 0.9024e+00 | 0.3946e+04 | -0.2026e+00 | -0.5744e+03 |
| 0.9024e+00 | 0.8800e+04 | -0.2026e+00 | -0.5708e+03 |
| 0.9024e+00 | 0.8676e+04 | -0.2026e+00 | -0.5145e+03 |
| 0.9024e+00 | 0.8738e+04 | -0.2026e+00 | -0.5326e+03 |
| 0.9024e+00 | 0.7851e+04 | -0.2026e+00 | -0.5499e+03 |
| 0.9024e+00 | 0.7522e+04 | -0.2026e+00 | -0.5332e+03 |
| 0.9024e+00 | 0.6110e+04 | -0.2026e+00 | -0.3655e+03 |
| 0.9024e+00 | 0.5851e+04 | -0.2026e+00 | -0.3247e+03 |
| 0.9024e+00 | 0.5370e+04 | -0.2026e+00 | -0.2964e+03 |
| 0.9024e+00 | 0.5031e+04 | -0.2026e+00 | -0.2680e+03 |
| 0.9024e+00 | 0.4517e+04 | -0.2026e+00 | -0.2273e+03 |
| 0.9024e+00 | 0.4106e+04 | -0.2026e+00 | -0.2047e+03 |
| 0.9024e+00 | 0.3825e+04 | -0.2026e+00 | -0.1918e+03 |
| 0.8997e+00 | 0.3531e+04 | -0.2061e+00 | -0.1891e+03 |
| 0.8997e+00 | 0.3319e+04 | -0.2061e+00 | -0.1836e+03 |
| 0.8997e+00 | 0.3075e+04 | -0.2061e+00 | -0.1772e+03 |
| 0.8997e+00 | 0.2973e+04 | -0.2061e+00 | -0.1716e+03 |
| 0.8997e+00 | 0.2877e+04 | -0.2061e+00 | -0.1656e+03 |
| 0.8997e+00 | 0.2783e+04 | -0.2051e+00 | -0.1574e+03 |

Netherlands, lag 10 years, 1861-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1861 | 1901 | 0.1247e-03 | 0.3013e-01 | 0.2804e-01 | -0.4208e-01 | -0.1196e+01 |
| 2 | 1862 | 1902 | 0.1251e-03 | 0.3017e-01 | 0.2302e-01 | -0.4208e-01 | -0.1258e+01 |
| 3 | 1863 | 1903 | 0.1293e-03 | 0.3009e-01 | 0.2786e-01 | -0.4208e-01 | -0.1074e+01 |
| 4 | 1864 | 1904 | 0.1341e-03 | 0.2998e-01 | 0.2764e-01 | -0.4208e-01 | -0.3504e+01 |
| 5 | 1865 | 1905 | 0.1427e-03 | 0.2986e-01 | 0.2735e-01 | -0.4208e-01 | -0.5322e+01 |
| 6 | 1866 | 1906 | 0.1520e-03 | 0.2962e-01 | 0.2691e-01 | -0.4208e-01 | -0.5987e+01 |
| 7 | 1867 | 1907 | 0.1533e-03 | 0.2874e-01 | 0.2576e-01 | -0.4657e-01 | -0.7094e+01 |
| 8 | 1868 | 1908 | 0.1717e-03 | 0.2852e-01 | 0.2525e-01 | -0.4657e-01 | -0.7575e+01 |
| 9 | 1869 | 1909 | 0.1863e-03 | 0.2835e-01 | 0.2479e-01 | -0.4657e-01 | -0.8553e+01 |
| 10 | 1870 | 1910 | 0.2079e-03 | 0.2817e-01 | 0.2441e-01 | -0.4657e-01 | -0.7277e+01 |
| 11 | 1871 | 1911 | 0.2356e-03 | 0.2800e-01 | 0.2411e-01 | -0.4657e-01 | -0.1802e+02 |
| 12 | 1872 | 1912 | 0.4960e-04 | 0.7206e-02 | 0.5726e-02 | -0.3057e+00 | -0.1903e+03 |
| 13 | 1873 | 1913 | 0.5217e-04 | 0.7348e-02 | 0.5893e-02 | -0.3058e+00 | -0.1822e+03 |
| 14 | 1874 | 1914 | 0.4502e-04 | 0.6852e-02 | 0.5512e-02 | -0.3058e+00 | -0.1817e+03 |
| 15 | 1875 | 1915 | 0.4744e-04 | 0.7030e-02 | 0.5732e-02 | -0.3058e+00 | -0.2269e+03 |
| 16 | 1876 | 1916 | 0.4432e-04 | 0.6735e-02 | 0.5445e-02 | -0.3058e+00 | -0.2406e+03 |
| 17 | 1877 | 1917 | 0.4712e-04 | 0.6980e-02 | 0.5558e-02 | -0.3058e+00 | -0.2486e+03 |
| 18 | 1878 | 1918 | 0.4550e-04 | 0.6869e-02 | 0.5334e-02 | -0.3058e+00 | -0.2799e+03 |
| 19 | 1879 | 1919 | 0.4527e-04 | 0.6904e-02 | 0.5458e-02 | -0.3058e+00 | -0.3215e+03 |
| 20 | 1880 | 1920 | 0.4377e-04 | 0.6700e-02 | 0.5399e-02 | -0.3058e+00 | -0.3494e+03 |
| 21 | 1881 | 1921 | 0.4367e-04 | 0.6734e-02 | 0.5451e-02 | -0.3058e+00 | -0.3642e+03 |
| 22 | 1882 | 1922 | 0.4279e-04 | 0.6745e-02 | 0.5297e-02 | -0.3058e+00 | -0.3634e+03 |
| 23 | 1883 | 1923 | 0.4094e-04 | 0.6625e-02 | 0.5251e-02 | -0.3058e+00 | -0.4911e+03 |
| 24 | 1884 | 1924 | 0.3916e-04 | 0.6513e-02 | 0.5103e-02 | -0.3058e+00 | -0.5237e+03 |
| 25 | 1885 | 1925 | 0.3891e-04 | 0.6499e-02 | 0.5081e-02 | -0.3058e+00 | -0.5517e+03 |
| 26 | 1886 | 1926 | 0.3847e-04 | 0.6476e-02 | 0.5051e-02 | -0.3058e+00 | -0.5402e+03 |
| 27 | 1887 | 1927 | 0.4025e-04 | 0.6609e-02 | 0.5142e-02 | -0.3058e+00 | -0.5378e+03 |
| 28 | 1888 | 1928 | 0.3656e-04 | 0.6310e-02 | 0.4885e-02 | -0.3027e+00 | -0.4899e+03 |
| 29 | 1889 | 1929 | 0.3673e-04 | 0.6228e-02 | 0.4728e-02 | -0.3027e+00 | -0.4980e+03 |
| 30 | 1890 | 1930 | 0.3489e-04 | 0.6087e-02 | 0.4529e-02 | -0.3027e+00 | -0.5247e+03 |
| 31 | 1891 | 1931 | 0.3399e-04 | 0.5983e-02 | 0.4398e-02 | -0.3027e+00 | -0.6502e+03 |
| 32 | 1892 | 1932 | 0.3512e-04 | 0.6103e-02 | 0.4527e-02 | -0.3027e+00 | -0.8101e+03 |
| 33 | 1893 | 1933 | 0.3739e-04 | 0.6360e-02 | 0.4621e-02 | -0.3027e+00 | -0.1064e+04 |
| 34 | 1894 | 1934 | 0.3911e-04 | 0.6379e-02 | 0.4727e-02 | -0.3027e+00 | -0.1089e+04 |
| 35 | 1895 | 1935 | 0.4602e-04 | 0.7027e-02 | 0.5076e-02 | -0.3027e+00 | -0.8885e+03 |
| 36 | 1896 | 1936 | 0.6414e-04 | 0.8472e-02 | 0.5936e-02 | -0.3027e+00 | -0.8742e+03 |
| 37 | 1897 | 1937 | 0.9394e-04 | 0.1041e-01 | 0.6807e-02 | -0.3027e+00 | -0.6923e+03 |
| 38 | 1898 | 1938 | 0.1083e-03 | 0.1137e-01 | 0.7553e-02 | -0.3027e+00 | -0.6138e+03 |
| 39 | 1899 | 1939 | 0.1030e-03 | 0.1144e-01 | 0.7630e-02 | -0.3027e+00 | -0.5726e+03 |
| 40 | 1900 | 1940 | 0.1073e-03 | 0.1144e-01 | 0.7670e-02 | -0.3027e+00 | -0.5319e+03 |
| 41 | 1901 | 1941 | 0.1003e-03 | 0.1147e-01 | 0.7810e-02 | -0.3027e+00 | -0.4516e+03 |
| 42 | 1902 | 1942 | 0.1094e-03 | 0.1143e-01 | 0.7734e-02 | -0.3027e+00 | -0.3925e+03 |
| 43 | 1903 | 1943 | 0.1122e-03 | 0.1155e-01 | 0.8030e-02 | -0.3027e+00 | -0.3674e+03 |
| 44 | 1904 | 1944 | 0.1172e-03 | 0.1154e-01 | 0.8014e-02 | -0.3027e+00 | -0.3529e+03 |
| 45 | 1905 | 1945 | 0.1126e-03 | 0.1156e-01 | 0.8040e-02 | -0.3027e+00 | -0.3404e+03 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9430e+00 | 0.8149e+03 | -0.3604e-01 | -0.8078e+00 |
| 0.9430e+00 | 0.7796e+03 | -0.3604e-01 | -0.7267e+00 |
| 0.9430e+00 | 0.8839e+03 | -0.3604e-01 | -0.1011e+01 |
| 0.9430e+00 | 0.8682e+03 | -0.3604e-01 | -0.1054e+01 |
| 0.9430e+00 | 0.1762e+04 | -0.3604e-01 | -0.4450e+01 |
| 0.9430e+00 | 0.1924e+04 | -0.3604e-01 | -0.4497e+01 |
| 0.9412e+00 | 0.2258e+04 | -0.4042e-01 | -0.6424e+01 |
| 0.9412e+00 | 0.2396e+04 | -0.4042e-01 | -0.6607e+01 |
| 0.9412e+00 | 0.2479e+04 | -0.4042e-01 | -0.6356e+01 |
| 0.9412e+00 | 0.3165e+04 | -0.4042e-01 | -0.9103e+01 |
| 0.9412e+00 | 0.3491e+04 | -0.4042e-01 | -0.6598e+01 |
| 0.8431e+00 | 0.9422e+04 | -0.2686e+00 | -0.3230e+03 |
| 0.8427e+00 | 0.8673e+04 | -0.2688e+00 | -0.2895e+03 |
| 0.8427e+00 | 0.8940e+04 | -0.2688e+00 | -0.2409e+03 |
| 0.8427e+00 | 0.9514e+04 | -0.2688e+00 | -0.3671e+03 |
| 0.8427e+00 | 0.1014e+05 | -0.2688e+00 | -0.3990e+03 |
| 0.8427e+00 | 0.1011e+05 | -0.2688e+00 | -0.3931e+03 |
| 0.8427e+00 | 0.1008e+05 | -0.2688e+00 | -0.3896e+03 |
| 0.8427e+00 | 0.1167e+05 | -0.2688e+00 | -0.4983e+03 |
| 0.8427e+00 | 0.1179e+05 | -0.2688e+00 | -0.5247e+03 |
| 0.8427e+00 | 0.1243e+05 | -0.2688e+00 | -0.5063e+03 |
| 0.8427e+00 | 0.1164e+05 | -0.2688e+00 | -0.5122e+03 |
| 0.8427e+00 | 0.1429e+05 | -0.2688e+00 | -0.5684e+03 |
| 0.8427e+00 | 0.1415e+05 | -0.2688e+00 | -0.6506e+03 |
| 0.8427e+00 | 0.1564e+05 | -0.2688e+00 | -0.6752e+03 |
| 0.8427e+00 | 0.1567e+05 | -0.2688e+00 | -0.6722e+03 |
| 0.8427e+00 | 0.1596e+05 | -0.2688e+00 | -0.6672e+03 |
| 0.8432e+00 | 0.1660e+05 | -0.2658e+00 | -0.6535e+03 |
| 0.8432e+00 | 0.1598e+05 | -0.2658e+00 | -0.6071e+03 |
| 0.8432e+00 | 0.1605e+05 | -0.2653e+00 | -0.7063e+03 |
| 0.8432e+00 | 0.1787e+05 | -0.2658e+00 | -0.5481e+03 |
| 0.8432e+00 | 0.1599e+05 | -0.2658e+00 | -0.8426e+03 |
| 0.8432e+00 | 0.1960e+05 | -0.2658e+00 | -0.7333e+03 |
| 0.8432e+00 | 0.1716e+05 | -0.2658e+00 | -0.7782e+03 |
| 0.8432e+00 | 0.1633e+05 | -0.2658e+00 | -0.7485e+03 |
| 0.8432e+00 | 0.1196e+05 | -0.2658e+00 | -0.7395e+03 |
| 0.8432e+00 | 0.9416e+04 | -0.2658e+00 | -0.7171e+03 |
| 0.8432e+00 | 0.7507e+04 | -0.2658e+00 | -0.4734e+03 |
| 0.8432e+00 | 0.7271e+04 | -0.2658e+00 | -0.4599e+03 |
| 0.8432e+00 | 0.6707e+04 | -0.2658e+00 | -0.4218e+03 |
| 0.8432e+00 | 0.6183e+04 | -0.2658e+00 | -0.3968e+03 |
| 0.8432e+00 | 0.5502e+04 | -0.2658e+00 | -0.3305e+03 |
| 0.8432e+00 | 0.5108e+04 | -0.2658e+00 | -0.2915e+03 |
| 0.8432e+00 | 0.4917e+04 | -0.2658e+00 | -0.2751e+03 |
| 0.8432e+00 | 0.4773e+04 | -0.2658e+00 | -0.2675e+03 |

Netherlands, lag 15 years, 1866-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1866 | 1906 | 0.1423e-03 | 0.2442e-01 | 0.2123e-01 | -0.5798e-01 | -0.1590e+01 |
| 2 | 1867 | 1907 | 0.1531e-03 | 0.2426e-01 | 0.2036e-01 | -0.5798e-01 | -0.1700e+01 |
| 3 | 1868 | 1908 | 0.1610e-03 | 0.2406e-01 | 0.2035e-01 | -0.5793e-01 | -0.1584e+01 |
| 4 | 1869 | 1909 | 0.1733e-03 | 0.2414e-01 | 0.2023e-01 | -0.5798e-01 | -0.5167e+01 |
| 5 | 1870 | 1910 | 0.1790e-03 | 0.2398e-01 | 0.2023e-01 | -0.5798e-01 | -0.7834e+01 |
| 6 | 1871 | 1911 | 0.2016e-03 | 0.2339e-01 | 0.2007e-01 | -0.5798e-01 | -0.8825e+01 |
| 7 | 1872 | 1912 | 0.2173e-03 | 0.2307e-01 | 0.1920e-01 | -0.6310e-01 | -0.1028e+02 |
| 8 | 1873 | 1913 | 0.2350e-03 | 0.2281e-01 | 0.1886e-01 | -0.6310e-01 | -0.1045e+02 |
| 9 | 1874 | 1914 | 0.2416e-03 | 0.2170e-01 | 0.1730e-01 | -0.6282e-01 | -0.1272e+02 |
| 10 | 1875 | 1915 | 0.2652e-03 | 0.2154e-01 | 0.1757e-01 | -0.6382e-01 | -0.1133e+02 |
| 11 | 1876 | 1916 | 0.2750e-03 | 0.2043e-01 | 0.1673e-01 | -0.7442e-01 | -0.2212e+02 |
| 12 | 1877 | 1917 | 0.1001e-03 | 0.1354e-01 | 0.1174e-01 | -0.3204e+00 | -0.2064e+03 |
| 13 | 1878 | 1918 | 0.2672e-04 | 0.1319e-01 | 0.1145e-01 | -0.3206e+00 | -0.1802e+03 |
| 14 | 1879 | 1919 | 0.5532e-04 | 0.1251e-01 | 0.1090e-01 | -0.3206e+00 | -0.2205e+03 |
| 15 | 1880 | 1920 | 0.4498e-04 | 0.1226e-01 | 0.1077e-01 | -0.3131e+00 | -0.2273e+03 |
| 16 | 1881 | 1921 | 0.5090e-04 | 0.1225e-01 | 0.1076e-01 | -0.3181e+00 | -0.2326e+03 |
| 17 | 1882 | 1922 | 0.5514e-04 | 0.1225e-01 | 0.1058e-01 | -0.3131e+00 | -0.2337e+03 |
| 18 | 1883 | 1923 | 0.5173e-04 | 0.1155e-01 | 0.9874e-02 | -0.3157e+00 | -0.2532e+03 |
| 19 | 1884 | 1924 | 0.5407e-04 | 0.1152e-01 | 0.9821e-02 | -0.3157e+00 | -0.2939e+03 |
| 20 | 1885 | 1925 | 0.5120e-04 | 0.1160e-01 | 0.1011e-01 | -0.3152e+00 | -0.3134e+03 |
| 21 | 1886 | 1926 | 0.5041e-04 | 0.1167e-01 | 0.1004e-01 | -0.3152e+00 | -0.3276e+03 |
| 22 | 1887 | 1927 | 0.4913e-04 | 0.1176e-01 | 0.1039e-01 | -0.3152e+00 | -0.3234e+03 |
| 23 | 1888 | 1928 | 0.4721e-04 | 0.1176e-01 | 0.1041e-01 | -0.3139e+00 | -0.4235e+03 |
| 24 | 1889 | 1929 | 0.4360e-04 | 0.1166e-01 | 0.1036e-01 | -0.3121e+00 | -0.4754e+03 |
| 25 | 1890 | 1930 | 0.4515e-04 | 0.1159e-01 | 0.1018e-01 | -0.3121e+00 | -0.5005e+03 |
| 26 | 1891 | 1931 | 0.4587e-04 | 0.1152e-01 | 0.1006e-01 | -0.3121e+00 | -0.5138e+03 |
| 27 | 1892 | 1932 | 0.4744e-04 | 0.1140e-01 | 0.9817e-02 | -0.3121e+00 | -0.5081e+03 |
| 28 | 1893 | 1933 | 0.4913e-04 | 0.1133e-01 | 0.9637e-02 | -0.3121e+00 | -0.4762e+03 |
| 29 | 1894 | 1934 | 0.4771e-04 | 0.1114e-01 | 0.9478e-02 | -0.3121e+00 | -0.4915e+03 |
| 30 | 1895 | 1935 | 0.4767e-04 | 0.1104e-01 | 0.9347e-02 | -0.3121e+00 | -0.4812e+03 |
| 31 | 1896 | 1936 | 0.4493e-04 | 0.1085e-01 | 0.9274e-02 | -0.3121e+00 | -0.5988e+03 |
| 32 | 1897 | 1937 | 0.4757e-04 | 0.1112e-01 | 0.9457e-02 | -0.3121e+00 | -0.7157e+03 |
| 33 | 1898 | 1938 | 0.4943e-04 | 0.1120e-01 | 0.9454e-02 | -0.3121e+00 | -0.8290e+03 |
| 34 | 1899 | 1939 | 0.4539e-04 | 0.1020e-01 | 0.9269e-02 | -0.3121e+00 | -0.8559e+03 |
| 35 | 1900 | 1940 | 0.4644e-04 | 0.1103e-01 | 0.9411e-02 | -0.3121e+00 | -0.7509e+03 |
| 36 | 1901 | 1941 | 0.5527e-04 | 0.1173e-01 | 0.9296e-02 | -0.3121e+00 | -0.7623e+03 |
| 37 | 1902 | 1942 | 0.6427e-04 | 0.1270e-01 | 0.1058e-01 | -0.3121e+00 | -0.6474e+03 |
| 38 | 1903 | 1943 | 0.6414e-04 | 0.1292e-01 | 0.1026e-01 | -0.3121e+00 | -0.5154e+03 |
| 39 | 1904 | 1944 | 0.7113e-04 | 0.1296e-01 | 0.1099e-01 | -0.3121e+00 | -0.4775e+03 |
| 40 | 1905 | 1945 | 0.7770e-04 | 0.1297e-01 | 0.1105e-01 | -0.3121e+00 | -0.4430e+03 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9134e+00 | 0.9416e+03 | -0.6953e-01 | -0.1690e+01 |
| 0.9134e+00 | 0.9158e+03 | -0.6953e-01 | -0.1531e+01 |
| 0.9134e+00 | 0.1016e+04 | -0.6953e-01 | -0.1911e+01 |
| 0.9134e+00 | 0.9538e+03 | -0.6953e-01 | -0.1930e+01 |
| 0.9134e+00 | 0.2257e+04 | -0.6953e-01 | -0.8995e+01 |
| 0.9134e+00 | 0.2349e+04 | -0.6953e-01 | -0.8898e+01 |
| 0.9111e+00 | 0.2711e+04 | -0.7446e-01 | -0.1220e+02 |
| 0.9111e+00 | 0.2670e+04 | -0.7446e-01 | -0.1237e+02 |
| 0.9083e+00 | 0.2801e+04 | -0.8019e-01 | -0.1314e+02 |
| 0.9083e+00 | 0.2990e+04 | -0.8019e-01 | -0.1549e+02 |
| 0.9052e+00 | 0.2578e+04 | -0.8624e-01 | -0.1419e+02 |
| 0.7832e+00 | 0.3341e+04 | -0.2812e+00 | -0.1646e+03 |
| 0.7825e+00 | 0.3586e+04 | -0.2813e+00 | -0.1610e+03 |
| 0.7825e+00 | 0.4640e+04 | -0.2813e+00 | -0.1318e+03 |
| 0.7831e+00 | 0.4794e+04 | -0.2786e+00 | -0.2046e+03 |
| 0.7831e+00 | 0.5486e+04 | -0.2786e+00 | -0.2199e+03 |
| 0.7831e+00 | 0.5281e+04 | -0.2786e+00 | -0.2231e+03 |
| 0.7834e+00 | 0.5670e+04 | -0.2758e+00 | -0.2250e+03 |
| 0.7834e+00 | 0.6425e+04 | -0.2758e+00 | -0.2898e+03 |
| 0.7833e+00 | 0.6860e+04 | -0.2754e+00 | -0.3057e+03 |
| 0.7833e+00 | 0.7175e+04 | -0.2754e+00 | -0.3328e+03 |
| 0.7833e+00 | 0.6580e+04 | -0.2754e+00 | -0.3094e+03 |
| 0.7835e+00 | 0.7602e+04 | -0.2737e+00 | -0.4183e+03 |
| 0.7838e+00 | 0.6545e+04 | -0.2719e+00 | -0.4227e+03 |
| 0.7838e+00 | 0.7084e+04 | -0.2719e+00 | -0.4507e+03 |
| 0.7838e+00 | 0.7107e+04 | -0.2719e+00 | -0.4376e+03 |
| 0.7838e+00 | 0.7041e+04 | -0.2719e+00 | -0.4307e+03 |
| 0.7838e+00 | 0.7762e+04 | -0.2719e+00 | -0.4212e+03 |
| 0.7838e+00 | 0.6372e+04 | -0.2719e+00 | -0.3444e+03 |
| 0.7838e+00 | 0.7319e+04 | -0.2719e+00 | -0.5171e+03 |
| 0.7838e+00 | 0.6055e+04 | -0.2719e+00 | -0.4044e+03 |
| 0.7838e+00 | 0.7207e+04 | -0.2719e+00 | -0.7692e+03 |
| 0.7838e+00 | 0.5949e+04 | -0.2719e+00 | -0.6564e+03 |
| 0.7838e+00 | 0.6835e+04 | -0.2719e+00 | -0.7461e+03 |
| 0.7838e+00 | 0.6599e+04 | -0.2719e+00 | -0.7228e+03 |
| 0.7838e+00 | 0.6764e+04 | -0.2719e+00 | -0.7707e+03 |
| 0.7838e+00 | 0.5887e+04 | -0.2719e+00 | -0.7734e+03 |
| 0.7838e+00 | 0.5430e+04 | -0.2719e+00 | -0.5531e+03 |
| 0.7838e+00 | 0.5268e+04 | -0.2719e+00 | -0.5510e+03 |
| 0.7838e+00 | 0.4561e+04 | -0.2719e+00 | -0.4911e+03 |

Netherlands, lag 20 years, 1871-1945 process order: 1.

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1871 | 1911 | 0.1177e-03 | 0.1219e-01 | 0.9111e-02 | -0.1346e+00 | -0.4039e+01 |
| 2 | 1872 | 1912 | 0.1271e-03 | 0.1219e-01 | 0.9132e-02 | -0.1360e+00 | -0.4163e+01 |
| 3 | 1873 | 1913 | 0.1357e-03 | 0.1237e-01 | 0.9381e-02 | -0.1360e+00 | -0.4261e+01 |
| 4 | 1874 | 1914 | 0.1394e-03 | 0.1240e-01 | 0.9300e-02 | -0.1367e+00 | -0.1222e+02 |
| 5 | 1875 | 1915 | 0.1395e-03 | 0.1222e-01 | 0.9388e-02 | -0.1426e+00 | -0.2274e+02 |
| 6 | 1876 | 1916 | 0.1502e-03 | 0.1250e-01 | 0.9550e-02 | -0.1426e+00 | -0.2330e+02 |
| 7 | 1877 | 1917 | 0.1500e-03 | 0.1219e-01 | 0.9330e-02 | -0.1467e+00 | -0.2578e+02 |
| 8 | 1878 | 1918 | 0.1565e-03 | 0.1240e-01 | 0.9486e-02 | -0.1467e+00 | -0.2579e+02 |
| 9 | 1879 | 1919 | 0.1647e-03 | 0.1283e-01 | 0.9655e-02 | -0.1467e+00 | -0.2333e+02 |
| 10 | 1880 | 1920 | 0.1428e-03 | 0.1232e-01 | 0.9491e-02 | -0.1488e+00 | -0.2720e+02 |
| 11 | 1881 | 1921 | 0.1427e-03 | 0.1245e-01 | 0.9629e-02 | -0.1488e+00 | -0.3530e+02 |
| 12 | 1882 | 1922 | 0.1392e-03 | 0.1233e-01 | 0.9535e-02 | -0.1525e+00 | -0.1071e+03 |
| 13 | 1883 | 1923 | 0.1196e-03 | 0.1183e-01 | 0.8972e-02 | -0.1525e+00 | -0.9802e+02 |
| 14 | 1884 | 1924 | 0.1005e-03 | 0.1141e-01 | 0.8972e-02 | -0.1525e+00 | -0.1114e+03 |
| 15 | 1885 | 1925 | 0.9610e-04 | 0.1154e-01 | 0.8979e-02 | -0.1544e+00 | -0.1320e+03 |
| 16 | 1886 | 1926 | 0.8500e-04 | 0.1195e-01 | 0.9299e-02 | -0.1544e+00 | -0.1411e+03 |
| 17 | 1887 | 1927 | 0.8252e-04 | 0.1253e-01 | 0.9840e-02 | -0.1561e+00 | -0.1375e+03 |
| 18 | 1888 | 1928 | 0.8605e-04 | 0.1309e-01 | 0.1035e-01 | -0.1561e+00 | -0.1504e+03 |
| 19 | 1889 | 1929 | 0.9040e-04 | 0.1372e-01 | 0.1101e-01 | -0.1561e+00 | -0.1686e+03 |
| 20 | 1890 | 1930 | 0.9213e-04 | 0.1426e-01 | 0.1156e-01 | -0.1561e+00 | -0.1839e+03 |
| 21 | 1891 | 1931 | 0.9305e-04 | 0.1485e-01 | 0.1212e-01 | -0.1561e+00 | -0.1898e+03 |
| 22 | 1892 | 1932 | 0.9470e-04 | 0.1545e-01 | 0.1277e-01 | -0.1561e+00 | -0.1844e+03 |
| 23 | 1893 | 1933 | 0.9709e-04 | 0.1624e-01 | 0.1359e-01 | -0.1561e+00 | -0.2247e+03 |
| 24 | 1894 | 1934 | 0.9636e-04 | 0.1639e-01 | 0.1406e-01 | -0.1561e+00 | -0.2449e+03 |
| 25 | 1895 | 1935 | 0.9610e-04 | 0.1747e-01 | 0.1475e-01 | -0.1561e+00 | -0.2508e+03 |
| 26 | 1896 | 1936 | 0.9370e-04 | 0.1802e-01 | 0.1541e-01 | -0.1561e+00 | -0.2458e+03 |
| 27 | 1897 | 1937 | 0.9342e-04 | 0.1846e-01 | 0.1609e-01 | -0.1614e+00 | -0.2501e+03 |
| 28 | 1898 | 1938 | 0.7936e-04 | 0.1885e-01 | 0.1665e-01 | -0.1614e+00 | -0.2200e+03 |
| 29 | 1899 | 1939 | 0.7875e-04 | 0.1926e-01 | 0.1716e-01 | -0.1614e+00 | -0.2419e+03 |
| 30 | 1900 | 1940 | 0.7759e-04 | 0.1966e-01 | 0.1764e-01 | -0.1614e+00 | -0.2292e+03 |
| 31 | 1901 | 1941 | 0.7646e-04 | 0.2011e-01 | 0.1819e-01 | -0.1614e+00 | -0.3137e+03 |
| 32 | 1902 | 1942 | 0.7449e-04 | 0.2061e-01 | 0.1881e-01 | -0.1614e+00 | -0.3472e+03 |
| 33 | 1903 | 1943 | 0.7024e-04 | 0.2081e-01 | 0.1914e-01 | -0.1614e+00 | -0.4120e+03 |
| 34 | 1904 | 1944 | 0.6223e-04 | 0.2093e-01 | 0.1922e-01 | -0.1614e+00 | -0.4207e+03 |
| 35 | 1905 | 1945 | 0.6310e-04 | 0.2103e-01 | 0.1958e-01 | -0.1614e+00 | -0.3810e+03 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.8409e+00 | 0.1486e+04 | -0.1444e+00 | -0.4522e+01 |
| 0.8393e+00 | 0.1276e+04 | -0.1468e+00 | -0.3750e+01 |
| 0.8393e+00 | 0.1548e+04 | -0.1468e+00 | -0.4851e+01 |
| 0.8380e+00 | 0.1325e+04 | -0.1432e+00 | -0.3414e+01 |
| 0.8356e+00 | 0.2518e+04 | -0.1493e+00 | -0.1615e+02 |
| 0.8356e+00 | 0.2275e+04 | -0.1493e+00 | -0.1634e+02 |
| 0.8334e+00 | 0.2320e+04 | -0.1536e+00 | -0.1910e+02 |
| 0.8334e+00 | 0.2422e+04 | -0.1536e+00 | -0.1945e+02 |
| 0.8334e+00 | 0.1988e+04 | -0.1536e+00 | -0.1802e+02 |
| 0.8319e+00 | 0.2561e+04 | -0.1560e+00 | -0.2126e+02 |
| 0.8319e+00 | 0.2056e+04 | -0.1560e+00 | -0.1913e+02 |
| 0.8299e+00 | 0.2839e+04 | -0.1592e+00 | -0.8656e+02 |
| 0.8299e+00 | 0.3451e+04 | -0.1592e+00 | -0.7813e+02 |
| 0.8299e+00 | 0.4399e+04 | -0.1592e+00 | -0.7838e+02 |
| 0.8291e+00 | 0.3845e+04 | -0.1610e+00 | -0.1002e+03 |
| 0.8291e+00 | 0.3972e+04 | -0.1610e+00 | -0.1087e+03 |
| 0.8284e+00 | 0.3807e+04 | -0.1628e+00 | -0.1104e+03 |
| 0.8284e+00 | 0.3603e+04 | -0.1628e+00 | -0.1102e+03 |
| 0.8284e+00 | 0.3699e+04 | -0.1628e+00 | -0.1332e+03 |
| 0.8284e+00 | 0.3966e+04 | -0.1628e+00 | -0.1434e+03 |
| 0.8294e+00 | 0.4060e+04 | -0.1628e+00 | -0.1626e+03 |
| 0.8284e+00 | 0.3649e+04 | -0.1628e+00 | -0.1373e+03 |
| 0.8284e+00 | 0.3958e+04 | -0.1628e+00 | -0.2099e+03 |
| 0.8284e+00 | 0.3347e+04 | -0.1628e+00 | -0.2109e+03 |
| 0.8284e+00 | 0.3406e+04 | -0.1628e+00 | -0.2345e+03 |
| 0.8284e+00 | 0.3051e+04 | -0.1628e+00 | -0.2218e+03 |
| 0.8265e+00 | 0.3002e+04 | -0.1680e+00 | -0.2300e+03 |
| 0.8265e+00 | 0.2689e+04 | -0.1680e+00 | -0.2199e+03 |
| 0.8265e+00 | 0.2696e+04 | -0.1680e+00 | -0.1839e+03 |
| 0.8265e+00 | 0.2692e+04 | -0.1680e+00 | -0.2420e+03 |
| 0.8265e+00 | 0.2806e+04 | -0.1680e+00 | -0.2127e+03 |
| 0.8265e+00 | 0.2837e+04 | -0.1680e+00 | -0.3366e+03 |
| 0.8265e+00 | 0.2860e+04 | -0.1680e+00 | -0.3305e+03 |
| 0.8265e+00 | 0.3096e+04 | -0.1680e+00 | -0.3546e+03 |
| 0.8265e+00 | 0.3132e+04 | -0.1680e+00 | -0.3123e+03 |

Netherlands, lag 25 years, 1876-1945 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1876 | 1916 | 0.9263e-04 | 0.1273e-01 | 0.1101e-01 | -0.1973e+00 | -0.4645e+01 |
| 2 | 1877 | 1917 | 0.9036e-04 | 0.1324e-01 | 0.1136e-01 | -0.1973e+00 | -0.2983e+01 |
| 3 | 1878 | 1918 | 0.8976e-04 | 0.1369e-01 | 0.1186e-01 | -0.1967e+00 | -0.4991e+01 |
| 4 | 1879 | 1919 | 0.8473e-04 | 0.1389e-01 | 0.1190e-01 | -0.1952e+00 | -0.7498e+01 |
| 5 | 1880 | 1920 | 0.8863e-04 | 0.1402e-01 | 0.1206e-01 | -0.1977e+00 | -0.1726e+02 |
| 6 | 1881 | 1921 | 0.8709e-04 | 0.1429e-01 | 0.1255e-01 | -0.1977e+00 | -0.1393e+02 |
| 7 | 1882 | 1922 | 0.8371e-04 | 0.1482e-01 | 0.1303e-01 | -0.1977e+00 | -0.1867e+02 |
| 8 | 1883 | 1923 | 0.8355e-04 | 0.1511e-01 | 0.1341e-01 | -0.1977e+00 | -0.1881e+02 |
| 9 | 1884 | 1924 | 0.8471e-04 | 0.1561e-01 | 0.1401e-01 | -0.1977e+00 | -0.1749e+02 |
| 10 | 1885 | 1925 | 0.8650e-04 | 0.1626e-01 | 0.1456e-01 | -0.1976e+00 | -0.1319e+02 |
| 11 | 1886 | 1926 | 0.9374e-04 | 0.1693e-01 | 0.1492e-01 | -0.1976e+00 | -0.2649e+02 |
| 12 | 1887 | 1927 | 0.9493e-04 | 0.1741e-01 | 0.1550e-01 | -0.1987e+00 | -0.1041e+03 |
| 13 | 1888 | 1928 | 0.8337e-04 | 0.1756e-01 | 0.1585e-01 | -0.2004e+00 | -0.8390e+02 |
| 14 | 1889 | 1929 | 0.6026e-04 | 0.1726e-01 | 0.1619e-01 | -0.2012e+00 | -0.8340e+02 |
| 15 | 1890 | 1930 | 0.5209e-04 | 0.1813e-01 | 0.1660e-01 | -0.2025e+00 | -0.1028e+03 |
| 16 | 1891 | 1931 | 0.5230e-04 | 0.1847e-01 | 0.1699e-01 | -0.2025e+00 | -0.1066e+03 |
| 17 | 1892 | 1932 | 0.5125e-04 | 0.1872e-01 | 0.1724e-01 | -0.2039e+00 | -0.9635e+02 |
| 18 | 1893 | 1933 | 0.5520e-04 | 0.1940e-01 | 0.1792e-01 | -0.2073e+00 | -0.1119e+03 |
| 19 | 1894 | 1934 | 0.5713e-04 | 0.1932e-01 | 0.1833e-01 | -0.2073e+00 | -0.1325e+03 |
| 20 | 1895 | 1935 | 0.6016e-04 | 0.2041e-01 | 0.1839e-01 | -0.2073e+00 | -0.1364e+03 |
| 21 | 1896 | 1936 | 0.5829e-04 | 0.2088e-01 | 0.1945e-01 | -0.2073e+00 | -0.1329e+03 |
| 22 | 1897 | 1937 | 0.5814e-04 | 0.2146e-01 | 0.2010e-01 | -0.2073e+00 | -0.1380e+03 |
| 23 | 1898 | 1938 | 0.5438e-04 | 0.2186e-01 | 0.2061e-01 | -0.2073e+00 | -0.1707e+03 |
| 24 | 1899 | 1939 | 0.4632e-04 | 0.2211e-01 | 0.2108e-01 | -0.2073e+00 | -0.1895e+03 |
| 25 | 1900 | 1940 | 0.4424e-04 | 0.2227e-01 | 0.2134e-01 | -0.2073e+00 | -0.1936e+03 |
| 26 | 1901 | 1941 | 0.3895e-04 | 0.2249e-01 | 0.2167e-01 | -0.2073e+00 | -0.1866e+03 |
| 27 | 1902 | 1942 | 0.3415e-04 | 0.2257e-01 | 0.2186e-01 | -0.2073e+00 | -0.1877e+03 |
| 28 | 1903 | 1943 | 0.3658e-04 | 0.2255e-01 | 0.2177e-01 | -0.2073e+00 | -0.1521e+03 |
| 29 | 1904 | 1944 | 0.4253e-04 | 0.2246e-01 | 0.2154e-01 | -0.2073e+00 | -0.1702e+03 |
| 30 | 1905 | 1945 | 0.4467e-04 | 0.2241e-01 | 0.2143e-01 | -0.2073e+00 | -0.1674e+03 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.7768e+00 | 0.1130e+04 | -0.1910e+00 | -0.4268e+01 |
| 0.7768e+00 | 0.7630e+03 | -0.1910e+00 | -0.3565e+01 |
| 0.7764e+00 | 0.1283e+04 | -0.1913e+00 | -0.4408e+01 |
| 0.7763e+00 | 0.7334e+03 | -0.1868e+00 | -0.3449e+01 |
| 0.7750e+00 | 0.1193e+04 | -0.1901e+00 | -0.1498e+02 |
| 0.7750e+00 | 0.1541e+04 | -0.1901e+00 | -0.1662e+02 |
| 0.7750e+00 | 0.1250e+04 | -0.1901e+00 | -0.1654e+02 |
| 0.7750e+00 | 0.1714e+04 | -0.1901e+00 | -0.1876e+02 |
| 0.7750e+00 | 0.1265e+04 | -0.1901e+00 | -0.1287e+02 |
| 0.7747e+00 | 0.1865e+04 | -0.1907e+00 | -0.2138e+02 |
| 0.7747e+00 | 0.1077e+04 | -0.1907e+00 | -0.1299e+02 |
| 0.7740e+00 | 0.1734e+04 | -0.1916e+00 | -0.9477e+02 |
| 0.7732e+00 | 0.2003e+04 | -0.1936e+00 | -0.7859e+02 |
| 0.7727e+00 | 0.1865e+04 | -0.1946e+00 | -0.7852e+02 |
| 0.7720e+00 | 0.1795e+04 | -0.1958e+00 | -0.9712e+02 |
| 0.7720e+00 | 0.1691e+04 | -0.1958e+00 | -0.1003e+03 |
| 0.7711e+00 | 0.1821e+04 | -0.1972e+00 | -0.1035e+03 |
| 0.7699e+00 | 0.1653e+04 | -0.2006e+00 | -0.9102e+02 |
| 0.7699e+00 | 0.1742e+04 | -0.2006e+00 | -0.1232e+03 |
| 0.7699e+00 | 0.1740e+04 | -0.2006e+00 | -0.1153e+03 |
| 0.7699e+00 | 0.1746e+04 | -0.2006e+00 | -0.1469e+03 |
| 0.7699e+00 | 0.1515e+04 | -0.2006e+00 | -0.1076e+03 |
| 0.7699e+00 | 0.1656e+04 | -0.2006e+00 | -0.1855e+03 |
| 0.7699e+00 | 0.1493e+04 | -0.2006e+00 | -0.1757e+03 |
| 0.7699e+00 | 0.1468e+04 | -0.2006e+00 | -0.1890e+03 |
| 0.7699e+00 | 0.1437e+04 | -0.2006e+00 | -0.1899e+03 |
| 0.7699e+00 | 0.1354e+04 | -0.2006e+00 | -0.1747e+03 |
| 0.7699e+00 | 0.1355e+04 | -0.2006e+00 | -0.1818e+03 |
| 0.7699e+00 | 0.1227e+04 | -0.2006e+00 | -0.1229e+03 |
| 0.7699e+00 | 0.1441e+04 | -0.2006e+00 | -0.2158e+03 |

Portugal, no lag , 1925-1960 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1925 | 1945 | 0.1505e-04 | 0.2523e-01 | 0.2493e-01 | -0.1170e+00 | -0.2792e+00 |
| 2 | 1926 | 1946 | 0.1515e-04 | 0.2521e-01 | 0.2491e-01 | -0.1170e+00 | -0.3596e+00 |
| 3 | 1927 | 1947 | 0.1370e-04 | 0.2538e-01 | 0.2510e-01 | -0.1170e+00 | -0.4878e+00 |
| 4 | 1928 | 1948 | 0.1965e-04 | 0.2472e-01 | 0.2431e-01 | -0.1170e+00 | -0.6998e+00 |
| 5 | 1929 | 1949 | 0.2480e-04 | 0.2435e-01 | 0.2384e-01 | -0.1170e+00 | -0.1004e+01 |
| 6 | 1930 | 1950 | 0.2781e-04 | 0.2379e-01 | 0.2320e-01 | -0.1170e+00 | -0.1370e+01 |
| 7 | 1931 | 1951 | 0.3897e-04 | 0.2344e-01 | 0.2260e-01 | -0.1170e+00 | -0.1504e+01 |
| 8 | 1932 | 1952 | 0.2422e-04 | 0.1877e-01 | 0.1811e-01 | -0.5728e-01 | -0.5915e+00 |
| 9 | 1933 | 1953 | 0.2861e-04 | 0.1867e-01 | 0.1789e-01 | -0.5728e-01 | -0.4455e+00 |
| 10 | 1934 | 1954 | 0.2557e-04 | 0.1815e-01 | 0.1743e-01 | -0.4856e-01 | -0.2758e+00 |
| 11 | 1935 | 1955 | 0.2881e-04 | 0.1773e-01 | 0.1690e-01 | -0.4111e-01 | -0.1673e+00 |
| 12 | 1936 | 1956 | 0.1508e-04 | 0.1804e-01 | 0.1762e-01 | -0.1451e-01 | -0.4176e-01 |
| 13 | 1937 | 1957 | 0.1393e-04 | 0.1808e-01 | 0.1769e-01 | -0.1451e-01 | -0.3017e-01 |
| 14 | 1938 | 1958 | 0.1719e-04 | 0.1791e-01 | 0.1742e-01 | -0.1451e-01 | -0.2238e-01 |
| 15 | 1939 | 1959 | 0.1520e-04 | 0.1848e-01 | 0.1806e-01 | -0.5273e-02 | -0.6092e-02 |
| 16 | 1940 | 1960 | 0.1863e-04 | 0.1829e-01 | 0.1778e-01 | -0.5273e-02 | -0.4560e-02 |

Portugal, lag 5 years, 1930-1960 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1930 | 1950 | 0.3019e-04 | 0.2367e-01 | 0.2302e-01 | -0.6440e-01 | -0.1540e+00 |
| 2 | 1931 | 1951 | 0.2930e-04 | 0.2386e-01 | 0.2324e-01 | -0.6440e-01 | -0.1984e+00 |
| 3 | 1932 | 1952 | 0.2915e-04 | 0.2388e-01 | 0.2326e-01 | -0.6440e-01 | -0.2691e+00 |
| 4 | 1933 | 1953 | 0.2819e-04 | 0.2400e-01 | 0.2341e-01 | -0.6440e-01 | -0.3857e+00 |
| 5 | 1934 | 1954 | 0.2803e-04 | 0.2404e-01 | 0.2345e-01 | -0.6440e-01 | -0.5527e+00 |
| 6 | 1935 | 1955 | 0.3349e-04 | 0.2375e-01 | 0.2303e-01 | -0.6440e-01 | -0.7537e+00 |
| 7 | 1936 | 1956 | 0.3678e-04 | 0.2363e-01 | 0.2284e-01 | -0.6440e-01 | -0.8270e+00 |
| 8 | 1937 | 1957 | 0.1378e-04 | 0.1912e-01 | 0.1875e-01 | -0.2508e-02 | -0.2588e-01 |
| 9 | 1938 | 1958 | 0.1331e-04 | 0.1915e-01 | 0.1879e-01 | -0.2508e-02 | -0.1948e-01 |
| 10 | 1939 | 1959 | 0.1466e-04 | 0.1908e-01 | 0.1869e-01 | -0.2508e-02 | -0.1422e-01 |
| 11 | 1940 | 1960 | 0.1721e-04 | 0.1895e-01 | 0.1849e-01 | -0.2508e-02 | -0.1019e-01 |

Portugal, lag 10 years, 1935-1960 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1935 | 1955 | 0.1323e-04 | 0.2447e-01 | 0.2420e-01 | -0.4376e-01 | -0.1045e+00 |
| 2 | 1936 | 1956 | 0.1184e-04 | 0.2460e-01 | 0.2436e-01 | -0.4376e-01 | -0.1346e+00 |
| 3 | 1937 | 1957 | 0.1390e-04 | 0.2451e-01 | 0.2422e-01 | -0.4376e-01 | -0.1827e+00 |
| 4 | 1938 | 1958 | 0.1874e-04 | 0.2411e-01 | 0.2372e-01 | -0.4376e-01 | -0.2622e+00 |
| 5 | 1939 | 1959 | 0.2674e-04 | 0.2362e-01 | 0.2305e-01 | -0.4376e-01 | -0.3762e+00 |
| 6 | 1940 | 1960 | 0.3713e-04 | 0.2309e-01 | 0.2227e-01 | -0.4376e-01 | -0.5142e+00 |

Portugal, lag 15 years, 1940-1960 process order: 0

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|------------|------------|
| 1 | 1940 | 1960 | 0.1013e-04 | 0.1487e-01 | 0.1452e-01 | 0.2621e-01 | 0.6335e-01 |

Portugal, no lag , 1925-1960 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1925 | 1945 | 0.1889e-04 | 0.2534e-01 | 0.2499e-01 | -0.9830e-01 | -0.6493e+01 |
| 2 | 1926 | 1946 | 0.1700e-04 | 0.2557e-01 | 0.2528e-01 | -0.9830e-01 | -0.7021e+01 |
| 3 | 1927 | 1947 | 0.1443e-04 | 0.2551e-01 | 0.2521e-01 | -0.9773e-01 | -0.8198e+01 |
| 4 | 1928 | 1948 | 0.1915e-04 | 0.2516e-01 | 0.2476e-01 | -0.9773e-01 | -0.9551e+01 |
| 5 | 1929 | 1949 | 0.2358e-04 | 0.2481e-01 | 0.2431e-01 | -0.9773e-01 | -0.1164e+02 |
| 6 | 1930 | 1950 | 0.2679e-04 | 0.2464e-01 | 0.2406e-01 | -0.9773e-01 | -0.1413e+02 |
| 7 | 1931 | 1951 | 0.3233e-04 | 0.2435e-01 | 0.2371e-01 | -0.9589e-01 | -0.1457e+02 |
| 8 | 1932 | 1952 | 0.4526e-04 | 0.2275e-01 | 0.2168e-01 | -0.7986e-01 | -0.1003e+02 |
| 9 | 1933 | 1953 | 0.2465e-04 | 0.1982e-01 | 0.1927e-01 | -0.3148e-01 | -0.3446e+01 |
| 10 | 1934 | 1954 | 0.2145e-04 | 0.1977e-01 | 0.1920e-01 | -0.2957e-01 | -0.2882e+01 |
| 11 | 1935 | 1955 | 0.2784e-04 | 0.1965e-01 | 0.1889e-01 | -0.2957e-01 | -0.2475e+01 |
| 12 | 1936 | 1956 | 0.2327e-04 | 0.1965e-01 | 0.1908e-01 | -0.2398e-01 | -0.1701e+01 |
| 13 | 1937 | 1957 | 0.2490e-04 | 0.1945e-01 | 0.1877e-01 | -0.2145e-01 | -0.1336e+01 |
| 14 | 1938 | 1958 | 0.2577e-04 | 0.1935e-01 | 0.1864e-01 | -0.1611e-01 | -0.8190e+00 |
| 15 | 1939 | 1959 | 0.2494e-04 | 0.1945e-01 | 0.1876e-01 | -0.1065e-01 | -0.5704e+00 |
| 16 | 1940 | 1960 | 0.2563e-04 | 0.1943e-01 | 0.1875e-01 | -0.5734e-02 | -0.9943e+00 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9029e+00 | 0.2411e+04 | -0.9426e-01 | -0.5572e+01 |
| 0.9020e+00 | 0.2182e+04 | -0.9426e-01 | -0.6189e+01 |
| 0.9019e+00 | 0.3123e+04 | -0.9346e-01 | -0.6444e+01 |
| 0.9019e+00 | 0.3040e+04 | -0.9346e-01 | -0.8071e+01 |
| 0.9019e+00 | 0.4157e+04 | -0.9346e-01 | -0.8688e+01 |
| 0.9019e+00 | 0.4272e+04 | -0.9346e-01 | -0.1179e+02 |
| 0.9019e+00 | 0.4466e+04 | -0.9162e-01 | -0.1526e+02 |
| 0.9021e+00 | 0.3882e+04 | -0.8012e-01 | -0.1248e+02 |
| 0.9026e+00 | 0.3081e+04 | -0.3719e-01 | -0.4284e+01 |
| 0.9024e+00 | 0.2721e+04 | -0.3543e-01 | -0.4096e+01 |
| 0.9024e+00 | 0.2190e+04 | -0.3543e-01 | -0.2975e+01 |
| 0.9024e+00 | 0.2092e+04 | -0.2950e-01 | -0.2560e+01 |
| 0.9023e+00 | 0.1675e+04 | -0.2667e-01 | -0.1545e+01 |
| 0.9023e+00 | 0.1515e+04 | -0.2142e-01 | -0.1431e+01 |
| 0.9022e+00 | 0.1543e+04 | -0.1577e-01 | -0.6840e+00 |
| 0.9020e+00 | 0.1352e+04 | -0.1099e-01 | -0.2209e+01 |

Portugal, lag 5 years, 1930-1960 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1930 | 1950 | 0.3484e-04 | 0.2441e-01 | 0.2368e-01 | -0.5294e-01 | -0.2934e+01 |
| 2 | 1931 | 1951 | 0.3352e-04 | 0.2472e-01 | 0.2403e-01 | -0.5294e-01 | -0.2944e+01 |
| 3 | 1932 | 1952 | 0.3225e-04 | 0.2484e-01 | 0.2419e-01 | -0.5294e-01 | -0.3533e+01 |
| 4 | 1933 | 1953 | 0.3149e-04 | 0.2503e-01 | 0.2440e-01 | -0.5294e-01 | -0.4048e+01 |
| 5 | 1934 | 1954 | 0.3108e-04 | 0.2518e-01 | 0.2456e-01 | -0.5294e-01 | -0.5080e+01 |
| 6 | 1935 | 1955 | 0.3380e-04 | 0.2503e-01 | 0.2435e-01 | -0.5294e-01 | -0.6375e+01 |
| 7 | 1936 | 1956 | 0.3559e-04 | 0.2498e-01 | 0.2425e-01 | -0.5294e-01 | -0.6649e+01 |
| 8 | 1937 | 1957 | 0.4239e-04 | 0.2380e-01 | 0.2285e-01 | -0.4439e-01 | -0.4252e+01 |
| 9 | 1938 | 1958 | 0.1423e-04 | 0.2059e-01 | 0.2027e-01 | 0.5541e-02 | 0.4662e+00 |
| 10 | 1939 | 1959 | 0.1437e-04 | 0.2060e-01 | 0.2028e-01 | 0.5541e-02 | 0.4166e+00 |
| 11 | 1940 | 1960 | 0.1391e-04 | 0.2015e-01 | 0.1979e-01 | 0.7257e-02 | 0.4659e+00 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9408e+00 | 0.2735e+04 | -0.5737e-01 | -0.2743e+01 |
| 0.9408e+00 | 0.3146e+04 | -0.5737e-01 | -0.3225e+01 |
| 0.9408e+00 | 0.2746e+04 | -0.5737e-01 | -0.2997e+01 |
| 0.9408e+00 | 0.3730e+04 | -0.5737e-01 | -0.4219e+01 |
| 0.9408e+00 | 0.3561e+04 | -0.5737e-01 | -0.4057e+01 |
| 0.9408e+00 | 0.4477e+04 | -0.5737e-01 | -0.6512e+01 |
| 0.9408e+00 | 0.4610e+04 | -0.5737e-01 | -0.8216e+01 |
| 0.9407e+00 | 0.3716e+04 | -0.5054e-01 | -0.7330e+01 |
| 0.9398e+00 | 0.2698e+04 | -0.1740e-02 | -0.1551e+00 |
| 0.9398e+00 | 0.2603e+04 | -0.1740e-02 | -0.1813e+00 |
| 0.9397e+00 | 0.1950e+04 | 0.6868e-03 | 0.4390e-01 |

Portugal, lag 10 years, 1935-1960 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|-------------|-------------|
| 1 | 1936 | 1956 | 0.1555e-04 | 0.2620e-01 | 0.2592e-01 | -0.1923e-01 | -0.1606e+01 |
| 2 | 1937 | 1957 | 0.1428e-04 | 0.2622e-01 | 0.2597e-01 | -0.1923e-01 | -0.1934e+01 |
| 3 | 1938 | 1958 | 0.1849e-04 | 0.2505e-01 | 0.2561e-01 | -0.1923e-01 | -0.2299e+01 |
| 4 | 1939 | 1959 | 0.2463e-04 | 0.2565e-01 | 0.2517e-01 | -0.1923e-01 | -0.2727e+01 |
| 5 | 1940 | 1960 | 0.3121e-04 | 0.2470e-01 | 0.2403e-01 | -0.1736e-01 | -0.2975e+01 |

| b1 | t-test | c1 | t-test |
|------------|------------|-------------|-------------|
| 0.9583e+00 | 0.2696e+04 | -0.2907e-01 | -0.2466e+01 |
| 0.9583e+00 | 0.2954e+04 | -0.2907e-01 | -0.2650e+01 |
| 0.9583e+00 | 0.3872e+04 | -0.2907e-01 | -0.3429e+01 |
| 0.9583e+00 | 0.4090e+04 | -0.2907e-01 | -0.3779e+01 |
| 0.9581e+00 | 0.5482e+04 | -0.2692e-01 | -0.5223e+01 |

Portugal, lag 15 years, 1940-1960 process order: 1

| Nr. | From | To | Objective | rmse-post | mad-post | c0 | t-test |
|-----|------|------|------------|------------|------------|------------|------------|
| 1 | 1940 | 1960 | 0.1314e-04 | 0.1591e-01 | 0.1547e-01 | 0.3449e-01 | 0.2179e+01 |

| b1 | t-test | c1 | t-test |
|------------|------------|------------|------------|
| 0.9981e+00 | 0.7191e+04 | 0.2940e-01 | 0.3123e+01 |