

NBER WORKING PAPER SERIES

INTERNATIONAL TRANSMISSION UNDER PEGGED
AND FLOATING EXCHANGE RATES: AN EMPIRICAL
COMPARISON

Michael R. Darby

Working Paper No. 585

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge MA 02138

December 1980

This paper was presented at the NBER's 1980 Summer Institute Program in International Studies. The research reported here is part of the NBER's research program in International Studies. Any opinions expressed are those of the author and not those of the National Bureau of Economic Research.

International Transmission Under Pegged and Floating
Exchange Rates: An Empirical Comparison

ABSTRACT

This paper continues the investigation of the surprisingly slow and weak international transmission of inflation indicated by the Mark III International Transmission Model. The Mark IV Simulation Model is presented. This is a simplified version of the Mark III Model which retains the transmission channels found significant in the Mark III and is suitable for simulation experiments. Separate versions of the Mark IV model describe the pegged and (dirty) floating exchange regimes. In order to be consistent with the stochastic processes governing policy variables in the sample period, policy experiments involved one percentage point increases in the disturbances of those processes for a single quarter with the behavior thereafter governed by the estimated process. U.S. money shocks were immediately mimicked (in accord with the monetary approach) in Germany but only with a lag (specie-flow mechanism) in the Netherlands. Canada and the U.K. showed only Keynesian absorption transmission. Weaker transmission is generally found under floating exchange rates with a J-curve important in the dynamics. No significant international transmission was found in experiments involving money shocks in the U.K. and Germany and real government spending shocks in the U.S., U.K., and Germany. The money shock experiments indicated short-run money control in U.K. and Germany, although less under pegged than floating rates.

Michael R. Darby
Department of Economics
University of California, Los Angeles
Los Angeles, California 90024

(213) 825-3343

For J. S. Bhandari and B. H. Putnam, eds.,
The International Transmission of Economic
Disturbances under Flexible Exchange Rates.
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D.2: November 14, 1980

INTERNATIONAL TRANSMISSION UNDER PEGGED AND FLOATING EXCHANGE RATES: AN EMPIRICAL COMPARISON

Michael R. Darby*
University of California, Los Angeles
National Bureau of Economic Research

The Mark III International Transmission Model was constructed to test and measure the importance of alternative channels of international transmission including the effects of capital and trade flows on the money supply, of export shocks on aggregate demand, of asset substitution on money demand, and of variations in the real price of oil. This quarterly econometric model was estimated using data for 1957 through 1976 for the United States, United Kingdom, Canada, France, Germany, Italy, Japan, and the Netherlands. The results, reported in Darby and Stockman (1980), indicated surprisingly slow and weak transmission from country to country. The

*The good counsel of Arthur Gandolfi, Dan Lee, James Lothian, and Michael Melvin made this paper possible, but they are not to be implicated in the results. Other valuable comments were received from Anthony Cisses, Robert P. Flood, Jr., and especially Anna J. Schwartz and participants in the U.C.L.A. Money Workshop and the N.B.E.R. Summer Institute. The calculations were performed by Michael Melvin and Andrew Vogel on the TROLL System at M.I.T. The author acknowledges the generous support of the National Science Foundation (grants APR78-13072 and DAR-7922874), the Relm Foundation, the Scaife Family Trusts, and the Alex C. Walker Foundation. The research reported here is part of the NBER's research program in International Studies. Any opinions expressed are those of the author and not those of the National Bureau of Economic Research.

startling implication that substantial sterilization policies were successful in achieving short-run monetary control under pegged exchange rates was confirmed by simple reduced-form tests in Darby (1980b). This paper continues the investigation of these findings by presenting the results of experiments with a simulation version of the Mark III International Transmission Model.

The results here generally support the earlier findings of weak transmission. The only exception is Germany for which a U.S. monetary shock is rapidly mimicked under pegged exchange rates. But since a domestic Germany money supply shock also affects German real income and prices, the Germans may have been acquiescent rather than impotent to resist U.S. monetary policy. Predictions of the monetary approach to floating exchange rates are not borne out in the simulations either: Although the results here are sensitive to specification, a J-curve phenomenon appears to be operative. Although monetary shocks in nonreserve countries have sensible domestic effects, international transmission is trivial. Similarly the domestic effects of real government spending shocks are too small to have an appreciable foreign impact in any case examined. These results force us to question the standard assumptions which imply strong channels for international transmission since those channels are not obvious in the data.

The Mark IV model is outlined in Section I. Section II discusses the simulation results for the United States money shock experiments. The third section illustrates the results of nonreserve-country-money-shock experiments and of real-government-shock experiments. The final section presents conclusions and suggestions for future research.

I. The Simulation Model

The Mark III model was designed to test a number of popular hypotheses about the transmission of inflation while allowing for a variety of lag patterns across countries. Unfortunately the large number of insignificant coefficients and collinear endogenous variables makes the model unusable for simulation purposes. A special simulation version of the model (the Mark IV) has been created by dropping insignificant variables and combining terms¹ except where variables are left in to permit transmission or for strong a-priori reasons (such as the interest-rate terms in the money-demand or price-level equation). The resulting model thus includes the significant relationships of the Mark III model but is sufficiently simplified for the reasonable calculation of simulation results. Given the way in which the model was derived, classical statistical statements cannot be made with respect to the Mark IV. Its purpose instead is to illustrate the implications of the relationships found significant in the Mark III model.

The Mark IV model exists in two versions. The pegged-exchange-rate version (Mark IV-PEG) combines the reserve-country (U.S.) submodel with the pegged-rate submodels for the seven nonreserve countries. Floating-rate nonreserve submodels are used instead of the floating-exchange rate version (Mark IV-FLT). A detailed presentation of the basic structure is available in the description of the Mark III model.² An Appendix to this paper lists the actual computer model together with the estimated coefficients. The remainder of this section summarizes the model.

The Mark III model was formulated to test and measure the empirical importance of alternative channels of international transmission including the effects of capital and trade flows on the money supply, of export shocks

on aggregate demand, of asset substitution on money demand, and of variations in the real price of oil. The Mark IV model incorporates these channels to the extent that they were supported by the data.

The reserve-country submodel of the Mark IV consists of 9 behavioral equations and 13 identities.³ The behavioral equations determine a skeletal macroeconometric model (real income, price level, unemployment rate, nominal money, and interest rate) together with a bit more detailed international sector (exports, imports, import prices, and capital flows). The pegged-exchange-rate nonreserve submodels are basically the same as the reserve submodel with the important exception that the balance of payments enters the nonreserve (but not the reserve) countries' money-supply reaction functions.⁴ The floating nonreserve submodels differ only in their international sectors: To make the seven domestic-currency-per-dollar exchange rates endogenous an exchange-intervention reaction function is added to determine the balance of payments previously determined by an identity. The sector is then renormalized to solve for the exchange rate.⁵

Let us first examine the skeletal macroeconometric model included in each of the submodels. Real income and the (nominal) interest rate are determined by shocks (innovations) in the money supply, real government spending, and real exports, and for the interest rate equation only, the expected inflation rate.⁶ Thus real income and the real interest rate are affected by the factors which unexpectedly shift aggregate demand relative to aggregate supply. The price-level equations simply equate short-run money demand to money supply.⁷ Nominal money supply is determined by a reaction function in response to lagged inflation and unemployment rates, to current and lagged government spending shocks, and for nonreserve countries to current and lagged balances of payments. The unemployment rate is determined by a

dynamic version of Okun's law for the United States, United Kingdom, and France. Changes in measured unemployment and real income were uncorrelated for the other countries; so for them the unemployment equation is deleted and logarithmic transitory income used instead in the money-supply reaction function.

The included channels by which international shocks can be transmitted to these basic macroeconomic variables are three in number: (1) For the nonreserve countries, the current and lagged balances of payments affect the nominal money supply. The estimates indicated very substantial if not total sterilization of the current balance of payments in every case, however. This is consistent with the central banks' pursuing money-growth or interest-rate goals set in response, among other things, to past data on the balance of payments. (2) Export shocks affect both real income and the interest rate along standard Keynesian absorption lines. (3) An asset substitution channel exists by which foreign interest rates adjusted by expected depreciation can affect money demand and the price level in the United Kingdom, France, and Japan. The real oil price does not enter in this sector but in the international sector and influences the domestic economy through these three channels. Tests of direct real influences will be reported at length in The International Transmission of Inflation volume.

The reserve and pegged-nonreserve international sectors will be discussed next. The export equation depends on foreign real income, the real price of oil, the domestic and foreign price levels, and the exchange rate. Imports are explained by a demand equation including domestic real income and current and lagged import prices relative to the price level. Import

prices in turn depend on import supply variables such as the size of imports, foreign price levels, and the exchange rate. The capital-flows equations allow for interest rate and expected depreciation effects, foreign and domestic real income effects, and trade-deficit financing. In the floating-non-reserve models the import demand and supply equations are renormalized to relative-import-price and exchange-rate equations, respectively. The added balance-of-payments or intervention equation relates the balance to changes in exchange rates relative to lagged changes and lagged changes in relative purchasing power.

One check of model adequacy which might uncover omitted channels of transmission was suggested by Bob Flood. Omitted channels will show up as correlations of the residuals of the model's equations. These correlations were checked for the Mark III Model both within each country and for U.S. nominal money, real income, and price level versus all foreign variables. Little more than the expected number of correlations were significant at the 5% level for either the pegged or floating period and no pair of correlations was significant in more than two cases. Therefore it was concluded that the model adequately represented the channels apparent in the data.

The international sector thus incorporates a variety of potential channels of transmission. For example, as suggested by the monetary approach, either trade or capital flows might cause huge movements in the balance of payments (and hence money) if domestic prices or interest rates were to begin to differ from international parity values. This did not appear likely from the small estimated coefficients, but only simulations can determine this definitely. So let us now turn to some simulation experiments.

II. U.S. Money Shock Experiments

As is well known,⁸ a common problem with policy studies based on econometric models is that the policy experiment is often inconsistent with the policy regime for which the model is estimated. As a result, the simulated behavior may be irrational under the alternative policy regime. Thus one must choose a policy experiment which is consistent with the estimated model. The consistent policy experiment chosen is a 0.01 increase in the disturbance term of the U.S. nominal-money-supply reaction function for one quarter. Thereafter the money supply develops according to the endogenous structure of the model.

This experiment was performed for both the pegged and floating versions of the Mark IV simulation model.⁹ The main results for the United States are summarized in the six panels of Figure 1. This figure shows the difference between the simulated values of the major variables given the one percent money shock and the values in the corresponding base simulation without the money shock; for ease in discussion all differences are reported in basis points.¹⁰ Note that the vertical scales are adjusted to the simulated variations so that similar appearing movements may be for much different magnitudes. We first note that for the U.S., it makes very little difference whether the pegged or floating model is examined. In either case, nominal money initially increases by one percent (100 basis points) and then fluctuates between 75 and 150 basis points. Thus for the U.S. a one-quarter shock to the money-supply reaction function has a persistent effect on the actual nominal money supply. Given the response of nominal money, the other variables respond reasonably in terms of standard macroeconomic lore: Real income is initially (peaking

at about 160 basis points) increased, but this effect washes out after two years. Prices gradually rise, reaching 50 basis points two years after the shock. There is a brief liquidity effect apparent in the interest rate, but this is quickly reversed as inflationary expectations and income effects became (temporary) important. Export movements are trivial, suggesting that feedback from foreign effects is negligible for the United States. Only the very slight balance of payments response seems at all surprising.

Figures 2 through 5 present the corresponding results for the United Kingdom, Canada, Germany, and the Netherlands.¹¹ Let us first examine Germany (Figure 4). In the pegged rate period, we have a response generally consistent with the monetary approach to the balance of payments: A large initial balance of payments surplus (0.6 percent of GDP or about 6.6 Percent of base money!) overwhelms the Deutsche Bundesbank's partial sterilization policy so that the money supply is increased nearly as much as in the United States. A similar pattern of temporary real income effects and gradual price increase is also seen but there is no initial liquidity effect indicated for the interest rate. The Netherlands (Figure 5) money supply increases much more gradually under pegged exchange rates, with the effect on exports initially important for both real income and the interest rate. This pattern seems consistent with a Humean specie-flow mechanism in which monetary transmission is more gradual and there is a significant short-run effect on trade flows (see panel (f)) both via absorption (foreign real income) and relative price channels. However for the United Kingdom and Canada (Figures 2 and 3) under pegged rates, there is no sign of monetary transmission in either the balance of payments or money supply. There is evidence of real income (and for the United Kingdom) interest rate effects, but these seem to derive from absorption type effects of increased exports. The price levels even fall slightly due to income effects increasing the real quantity of money demanded.

Summing up, under pegged exchange rates the simulation results vary from the monetary approach paradigm (Germany), through the Humean lagged monetary adjustment paradigm (Netherlands), to the simple Keynesian absorption in which prices and interest rates are irrelevant (the United Kingdom and Canada). Clearly the results are partially puzzling whatever view of transmission one might hold. The construction of the Mark III model had attempted to allow the data to choose which transmission patterns are important; at least that attempt appears to have been successful.

The floating period results for the same four nonreserve countries are problematical in that the initial effect (if any) of the U.S. money supply increase is to depreciate the exchange rates.¹² This result may reflect a structural problem in the Mark IV model. Only in the import supply equation were strong, consistent exchange-rate effects obtained in the pegged period. This equation was solved for the logarithmic change in the exchange rate in the floating period. (An intervention equation was also added to explain the balance of payments.) In initial unconstrained estimates for the floating period, the logarithmic change in import prices entered with a coefficient of between 0.3 and 0.5 while the change in the dollar-denominated rest-of-the-world price index entered with coefficients of -1.5 to -3. In theory, these coefficients should be of equal magnitude and opposite signs; this theory is consistent with the pegged-period estimates. Unfortunately the floating-period estimates appear to be dominated by common movements in exchange rates against the dollar. Simulations using the unconstrained, inconsistent coefficients, resulted in nearly universal initial exchange rate appreciations of two percent which grow to seven percent after two years with no corresponding movements in interest

rates or price levels. For this reason, the constraint of a single coefficient on the logarithmic change in the ratio of import to rest-of-world prices was imposed. When the constraint is imposed, however, the surprising initial depreciation results. These results are reported since, as explained immediately below, some sense can be made of them and they do illustrate the potentially perverse effects of a J-curve phenomenon.

Given the initial exchange rate depreciation of some 70 basis points shown in Figure 4, the German monetary authorities intervene to support the mark and the money supply falls. Over time, the initial depreciation is reversed and the money supply recovers. Prices and income follow the monetary movements. The initial movement in the German exchange rate occurs in the simulation because of an estimated J-curve pattern in the import demand (relative-price-of-imports) equation. Since exports rise with the rise in U.S. income and capital outflows fall with the fall in the U.S. interest rate, imports plus the balance of payments surplus has to rise given the identity. The balance of payments (intervention) is not very responsive under floating rates so the dominant movement is an increase in the value of imports. Since the demand curve is somewhat inelastic in the short-run, the increase in value requires a substantial increase in the domestic-currency price of imports. The more rapid growth in import prices than dollar-denominated rest-of-the-world prices leads to a higher (depreciated) exchange rate.

For the Netherlands (Figure 5) under floating exchange rates, the simulated effects are really trivial except for an export increase peaking at 55 basis points as compared to about 75 basis points under pegged rates. Again the exchange rate depreciates, but while the initial depreciation is quite small it is curiously persistent even as U.S. prices rise relative to Dutch prices.

The United Kingdom (Figure 2) displays generally weak and apparently perverse movements in the first year or so for the exchange rate, exports, and real income. This is due to the J-curve phenomenon with an added complication: The rapid growth rate of import prices increases expected depreciation. This decreases the real quantity of money demanded in the U.K. where a significant currency substitution effect was estimated. The resulting increase in the U.K. price level reduces exports.

Only for Canada (Figure 3) is the transmission under floating rates broadly similar to that under pegged rates, excepting more frequent oscillations. This is consistent with the unimportance of price movements found for Canada in the pegged rate period.

Overall, transmission of a U.S. money shock is weaker under floating rates than pegged rates, although Canada is an exception. While the results appear to be sensitive to the specification of the model, one specification would suggest that a J-curve element in the import-demand equations can lead to surprising effects in a general equilibrium model.

III. Other Experiments

The implications of the Mark IV model have been further explored in a set of five additional pairs of experiments. Two of these pairs compare the effects under pegged and floating exchange rates of one-quarter money shocks (such as described in Section II) in Germany and the United Kingdom. The other three involve a one-quarter increase of 0.01 (1 percent of government spending) in the government spending shock in the United States, Germany, and the United Kingdom, respectively.

In the pegged case, a one-quarter 100 basis point increase in the Germany money-supply reaction function disturbance actually increases German nominal money by some 75 basis points as seen in Figure 6; an induced decrease in the balance of payments partially offsets the increase in the disturbance term. The initial reduction in the balance of payments is quickly reversed as increased inflationary expectations increase the interest rate. The money supply effect peaks at 85 basis points and thereafter decays toward zero. The real income, price level, and export effects are predictable given the movements in the nominal money supply. But unlike the United States, no noticeable transmission to any other countries is detected in the simulations (or graphed here): No variable in any other country in any quarter deviates from the base simulation by as much as 10 basis points and peak effects on the order of 1 basis point or less are the rule.

Under floating rates, the German money shock, has broadly similar effects except that the money supply drops quickly after the first year from the 100-120 basis point range and then stabilizes in the 40-70 point range. The exchange rate moves cyclically, first appreciating, then depreciating,

and finally appreciating again. Again no transmission to other countries is detected.¹³

The results of the money shock experiment in the United Kingdom are displayed in Figure 7. In the pegged case there is some tendency for the money supply to be reduced by a falling balance of payments which is not present in the floating case. The only remarkable results are the lack of movement in the floating exchange rate and the (incredible) negative impact of a money shock on U.K. real income.¹⁴ Again there was no noticeable transmission to other countries (on the 10-basis-point-peak criterion) to report.

The next set of experiments involve one quarter increases of 100 basis points in unexpected real government spending. This sort of government spending shift is consistent with the policy regime for which the model was estimated. However, the implications of this shock for the actual level of real government spending differs according to the actual process observed to govern the evolution of real government spending in each country. Because the logarithm of U.S. real government spending appears to follow a random walk with drift, the 100 basis point increase in real government spending is implicitly a permanent one. The corresponding German variable follows a first order moving average process which implies that the level of real government spending is increased by 100 basis points in the initial quarter but by only 25 basis points thereafter. For the United Kingdom the pattern is more complicated due to a second order autoregressive process, but the effect on the level of real government spending is very nearly approximated by an initial 100 basis point increase and a 57 basis point increase thereafter.¹⁵

Figure 8 shows rather similar effects for the U.S. government spending shock in both the pegged and floating periods. Given the fact that income is about four times government spending, the implied peak government spending multiplier is about unity. The 15 basis point decline in the price level reflects the fact that the estimated income effect on the demand for money exceeds the induced increase in nominal money. As might be supposed by the trivial effects on the interest rate, exports, and balance of payments, no noticeable transmission was detected.¹⁶

The United Kingdom experiment reported in Figure 9 is nearly trivial in magnitude within the country (the peak multiplier is about $\frac{1}{2}$) and there is nothing to report by way of transmission to other countries. Recall however that only about half of the initial increase in government spending is implicitly maintained past the first quarter. For Germany (where only a quarter of the initial increase is maintained thereafter), none of the peak effects within the country reach even ± 10 basis points in either the floating or pegged case. Naturally transmission to other countries is nil even on a 1-basis-point-peak-effect criterion. This experiment is not illustrated here. It is interesting to note that for all three countries the peak real income effect implies a multiplier of about unity with respect to the permanent change in real government spending.

IV. Conclusion and Implications for Future Research

Simulation experiments help us to understand the workings of a large model in which the simultaneous and dynamic relationships are too complicated to consider analytically. The results of the experiments tell us something about how the world would operate for a given model specification and coefficient values which are not inconsistent with a set of data. The results may tell us something about the way the world works, but they surely tell us more about just what simplifications in our simple models may lead to erroneous results.

Consider, for example, standard models in which an increased domestic money supply leads to lower domestic relative to foreign interest rates and a resulting adjustment process. This implicitly assumes that the liquidity effect dominates any inflationary expectations effect on interest rates during the relevant adjustment period. With relatively weak liquidity effects and strong expectations effects as estimated here, the transmission and adjustment process does not follow standard lines.¹⁷

The simulations confirm the apparent implications of the Mark III estimates: International transmission of inflation through money flows is a weak and slow process even under pegged exchange rates, with nonreserve countries exercising considerable short-run control over their money supplies. Of the four nonreserve countries examined, only Germany appeared to quickly and passively adjust its money supply to a U.S. monetary shock while for the United Kingdom and Canada the only simulated transmission was via absorption effects. Further when a German monetary supply shock was simulated, overwhelming balance of payments flows were not simulated so that substantial money, real income, and price effects were observed.

These simulations certainly do not disprove the usefulness of the monetary approach to the balance of payments in the short run, but they do contribute to a growing body of literature which raises questions about its short-run usefulness.

While the international transmission after a U.S. monetary shock under floating exchange rates was weaker than under pegged rates (Canada excepted), the exchange rate movements were puzzling. They certainly do suggest that the implications of short-run inelasticity of import demand (J-curves) should be investigated further. If the world, like the Mark IV model, is characterized by imperfect international substitutability among goods and assets, J-curves may play a significant role in the adjustment and transmission process.

The nonreserve money shock experiments revealed no significant international transmission under either pegged or floating rates. Some monetary approach writers¹⁸ have argued that an increase in these countries' domestic credit would result in a generalized increase in the world money supply, but this is incorrect for a system such as Bretton Woods tied to a fiat reserve currency with reserves being dollar-denominated bonds.¹⁹ Since monetary transmission is nil under either pegged or floating rates, only the very small increase in world export demand is operative and this is trivial in magnitude for a money shock in any one of these nonreserve countries.

The government spending shocks were generally too weak in their domestic effects to have any appreciable impact abroad. The largest simulated effect was in the United States with a peak government spending multiplier of about unity. However, the initial one percent increase in real spending was all

permanent in the United States, half permanent in the United Kingdom, and one quarter permanent in Germany, with the peak multipliers in rough proportion.

In conclusion, the simulation results suggest a great deal of national economic independence under both pegged and floating exchange rates. These results have been very puzzling to those of us associated with the NBER Project on the International Transmission of Inflation. However they are part of a consistent pattern emerging from the evidence. A first order for research in international macroeconomics is to explain why the data fail to disclose the strong transmission channels which we customarily assume.

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Footnotes

¹ Collinearity is reduced where the coefficients of various lagged levels of a variable indicate that either a sum or first difference is the appropriate variable. Similarly a number of hypotheses implying equality of coefficients permitted combining terms into simple logarithmic sums or differences.

² Darby and Stockman (1980).

³ This is four more identities than listed in the Mark III model: Two of these define expected money and exports based on last period's information; these series are predetermined for purposes of estimation but endogenous in a dynamic simulation. A third identity defines logarithmic transitory income which was written explicitly in the Mark III. The fourth defines a lagged prediction error term needed for dynamic simulation. Similar identities were added to all the other submodels to obtain consistent dynamic simulations.

⁴ As is appropriate for a reserve country, the balance of payments was found to have no influence on the U.S. money supply. See Darby (1980a, 1980c).

⁵ The equations are solved for exports, relative price of imports, exchange rate, net capital outflows, and the balance of payments.

⁶ Variables such as real income, prices, and money are measured in logarithms. The interest rates and unemployment rates are decimal fractions. Exports, imports, net capital outflows, and the balance of payments are all scaled by dividing by nominal income. Shocks are deviations of actual values from optimal ARIMA predictions of the variables.

⁷ The short-run money demand function is adapted from Carr and Darby (1981). It allows for money-supply shocks to effect money demand. In the Mark III model a foreign interest rate adjusted for expected depreciation was included to test for asset substitution, but this was significant only for the United Kingdom and Japan and (at only a 15% significance level) France.

⁸ See Lucas (1976).

⁹ A dynamic simulation was performed for nine quarters. In a dynamic simulation, the input series are the exogenous variables plus the initial conditions (endogenous variables before the beginning of simulation). The values of endogenous variables within the simulation period are assigned their predicted values. As is common for a large model with few exogenous variables, the cumulative errors in the endogenous variables eventually take the simulation off track. For the Mark IV, this is not a significant difficulty until after the first two years. The pegged simulations began in 1962 III and the floating simulations began in 1971 III; in each case this is the beginning of the feasible simulation period as determined by all nonreserve countries maintaining firm dollar pegs or having broken from them.

¹⁰ A basis point is 1/100 of a percentage point; so the basis point differences are the actual differences times 10,000. Note that all the variables are measured in units conformable for meaningful basis point discussion. Pegged observations are plotted as squares; floating as diamonds.

¹¹ The simulation results for France, Japan, and Italy were so erratic as to be inexplicable. The peculiar estimated coefficients -- which we

attribute to severe data problems for these countries -- appear to be the problem. See Darby and Stockman (1980).

¹² The exchange rates are measured in domestic currency units per dollar so an increase is a depreciation.

¹³ For example, the strongest simulated effects were for the Netherlands. The peak effects on real income were ± 1 basis point; on the money supply, price level and interest rate ± 0.2 basis points; on the exchange rate ± 0.3 basis point; on the balance of payments ± 0.1 basis point; and -- the big one -- on exports ± 8 basis points.

¹⁴ The negative coefficients on money shocks were not jointly significant in the Mark III model, but were retained in the reestimation of the Mark IV model so that this channel was not foreclosed.

¹⁵ To be precise, the implied increase in U.K. real government spending compared to the base run for the first nine quarters is 100, 56, 44, 63, 59, 55, 58, 58, and 57 basis points, respectively.

¹⁶ Almost achieving our 10 basis point threshold were 8-basis-point peak increases in Canadian exports and real income. The simulated results for other countries were generally sensible in direction but tiny in magnitude.

¹⁷ Dan Lee (1980) in his dissertation has shown that Dornbusch's (1976) famous overshooting result for floating exchange rates follows from allowing participants in the financial markets to have rational expectations with respect to exchange rates but not prices: Recall that Dornbusch argued that lower home interest rates after a money supply increase must be balanced by (rational) expectations of an appreciating currency and this implies an

initial over-depreciation. If the interest rate instead rises with (rational) inflationary expectations, then expectations of depreciation are appropriate and the overshooting argument falls.

¹⁸ See, for example, Swoboda (1976), Meiselman and Laffer (1975), and Parkin and Zis (1976a, 1976b).

¹⁹ This point is developed at length in Darby (1980c).

FIGURE 1
Deviations of Key American Variables from Base Simulations
American Money-Shock Experiments

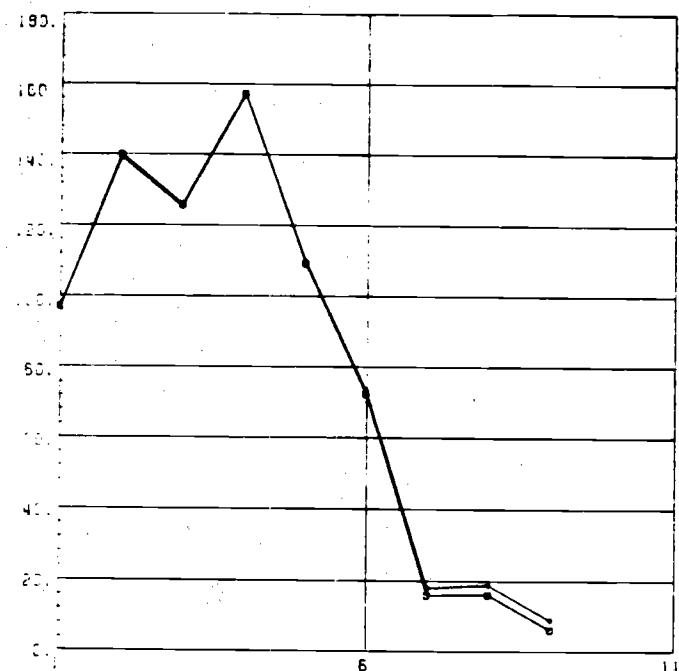
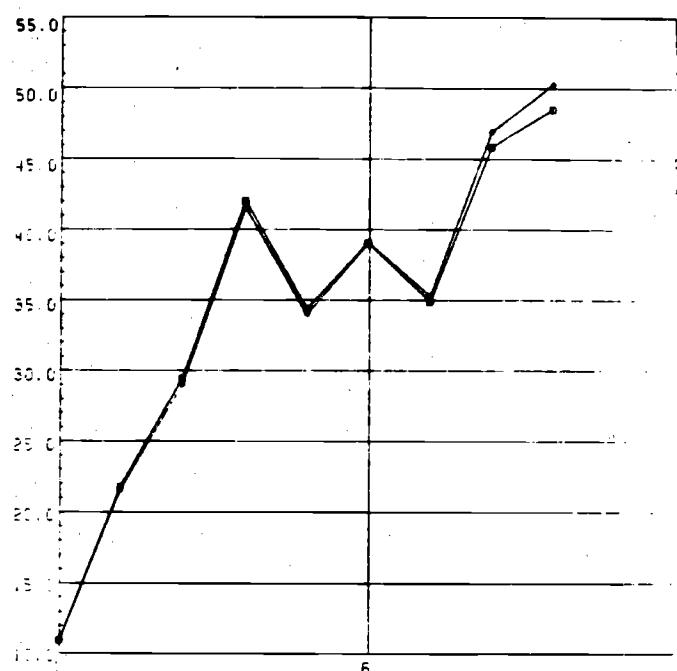
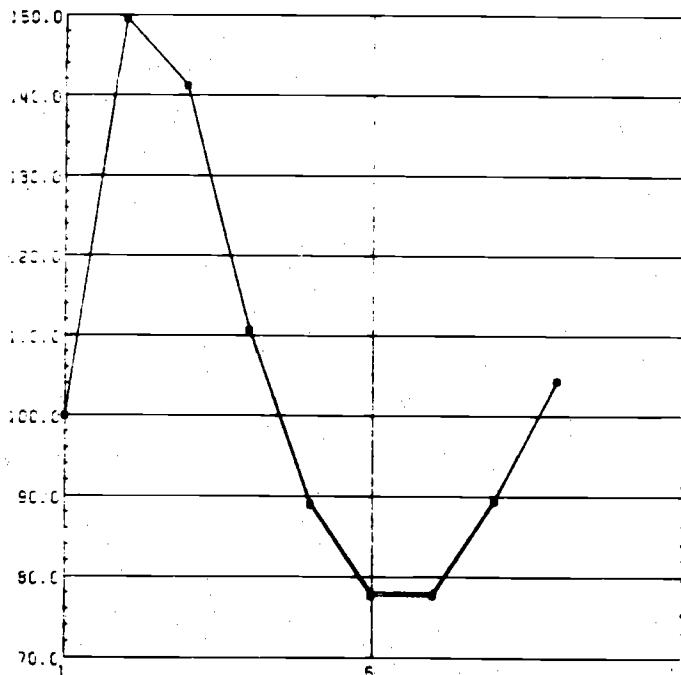
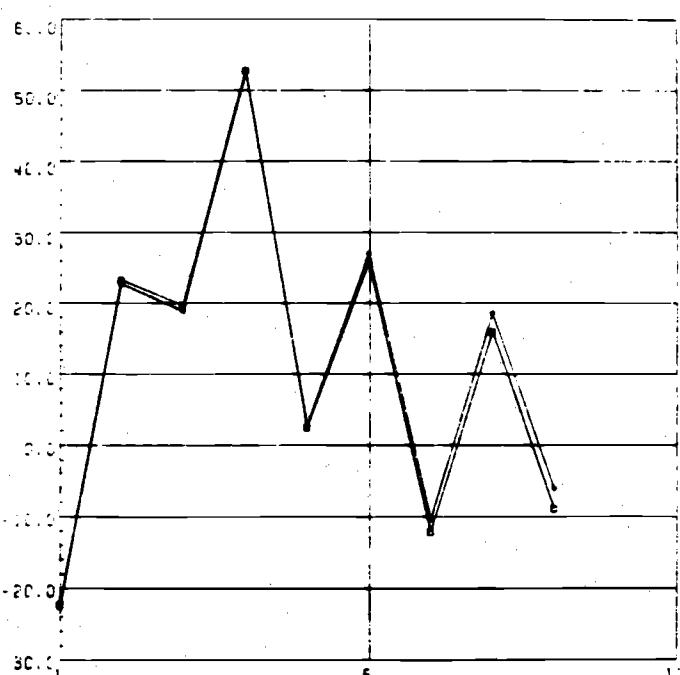
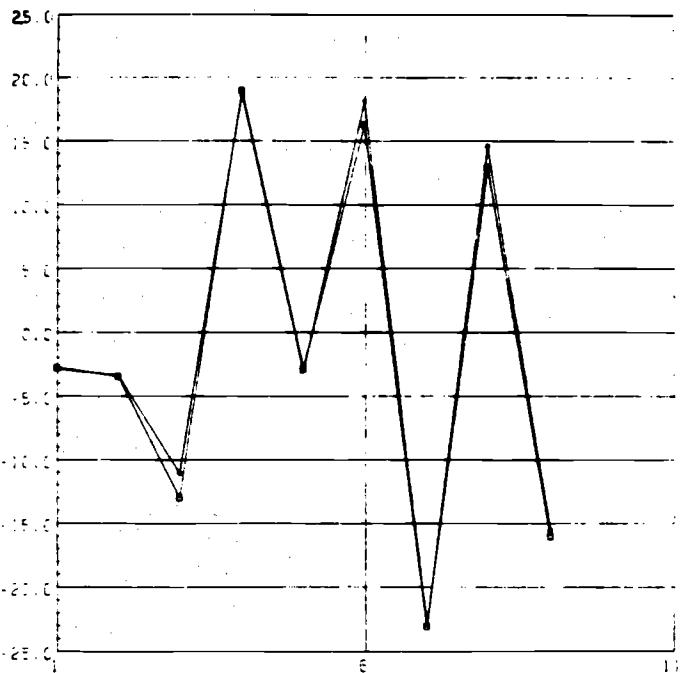
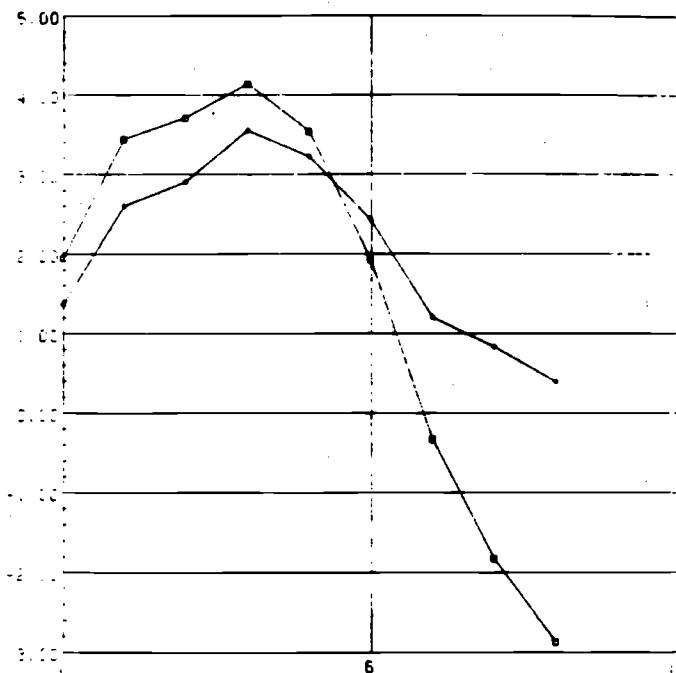
(a) Real Income -- $\log y_1$ (b) Price Level -- $\log P_1$ (c) Nominal Money -- $\log M_1$ (d) Short-Term Interest Rate -- R_1

FIGURE 1 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_1$ (f) Scaled Exports -- $(X/Y)_1$

Note: Vertical scales are in basis points (actual deviations \times 10,000).

Key: • Pegged rate deviations
• Floating rate deviations

FIGURE 2
Deviations of Key British Variables from Base Simulations
American Money-Shock Experiments

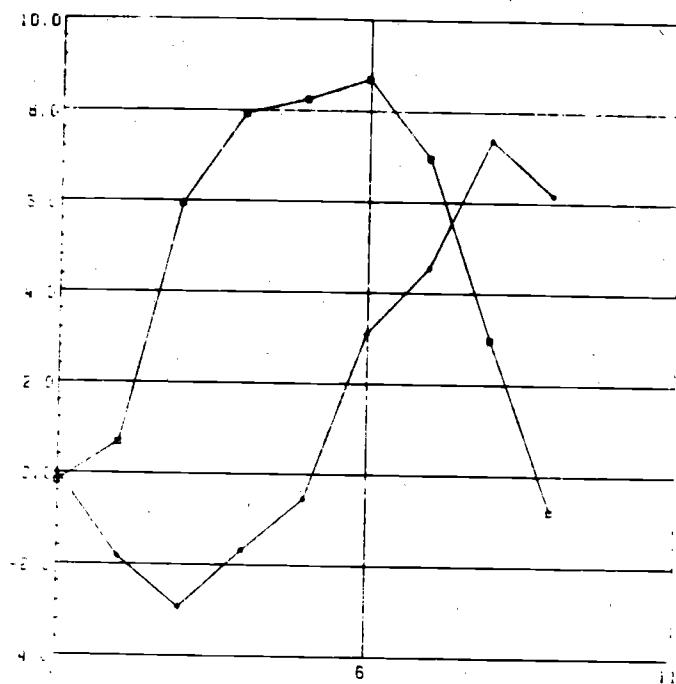
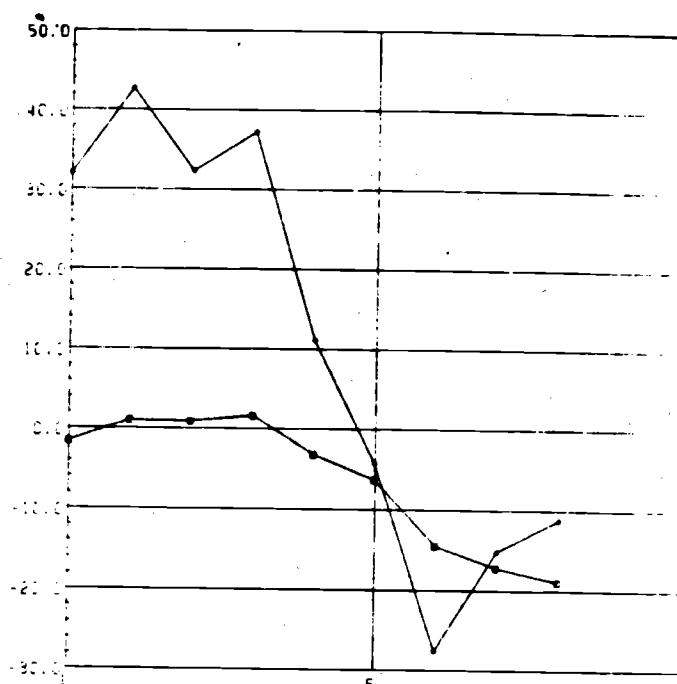
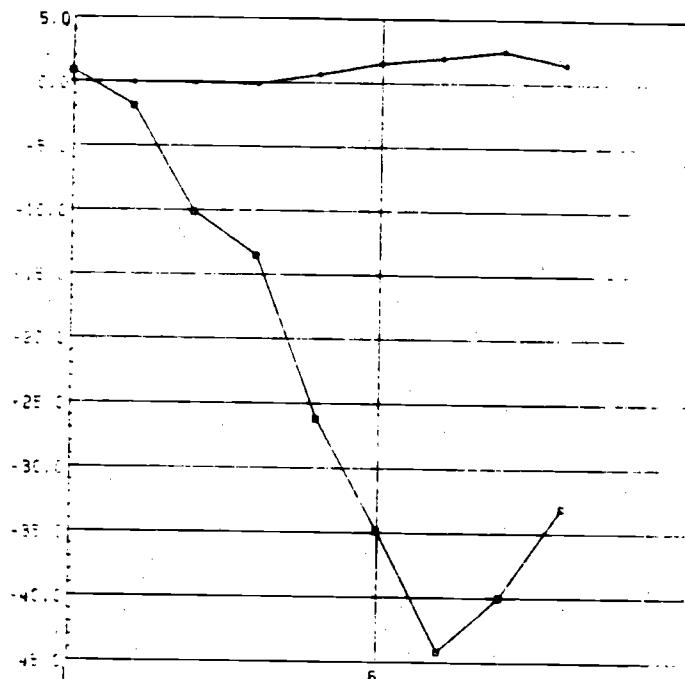
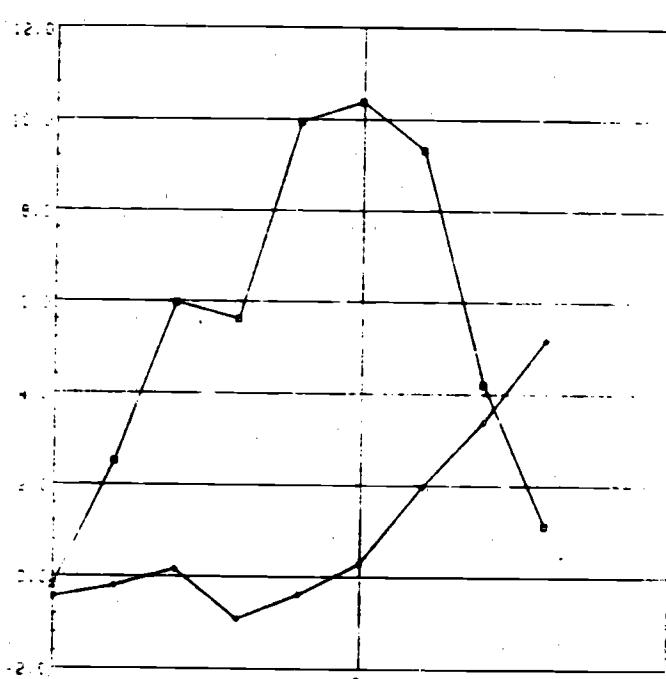
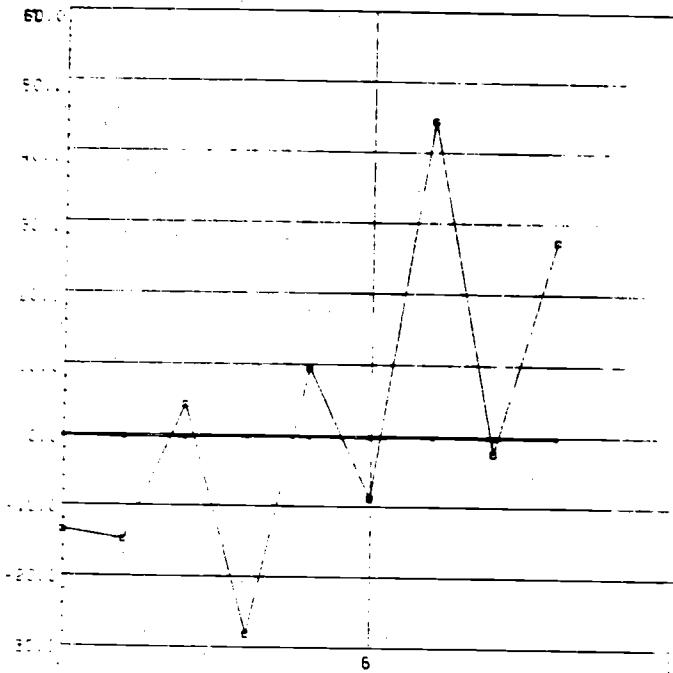
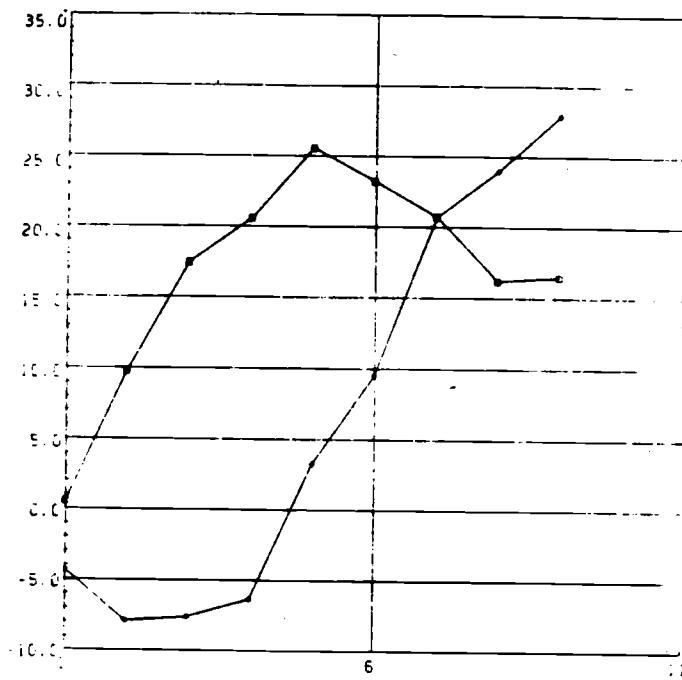
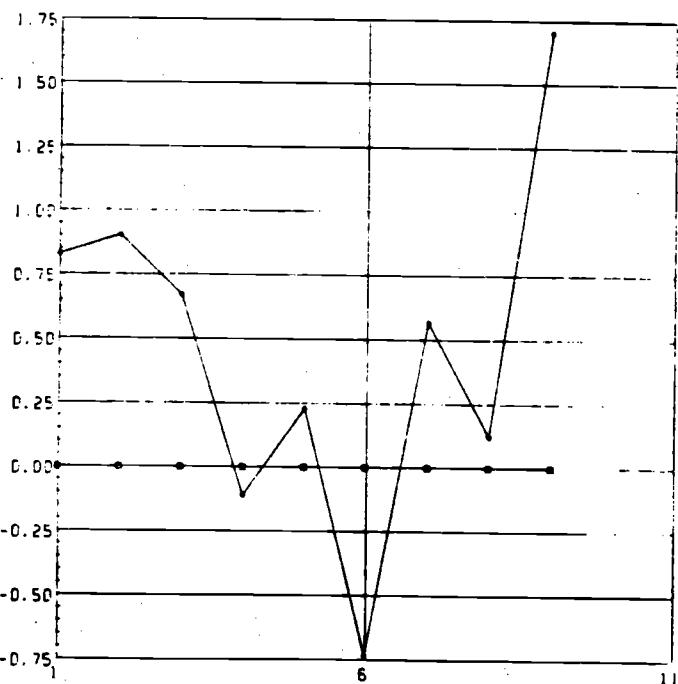
(a) Real Income -- $\log y_2$ (b) Price Level -- $\log P_2$ (c) Nominal Money -- $\log M_2$ (d) Short-Term Interest Rate -- R_2

FIGURE 2 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_2$ (f) Scaled Exports -- $(X/Y)_2$ (g) Exchange Rate -- $\log E_2$

Note: Vertical scales are in basis points (actual deviations \times 10,000).

Key: • Pegged rate deviations
• Floating rate deviations

FIGURE 3
Deviations of Key Canadian Variables from Base Simulations
American Money-Shock Experiments

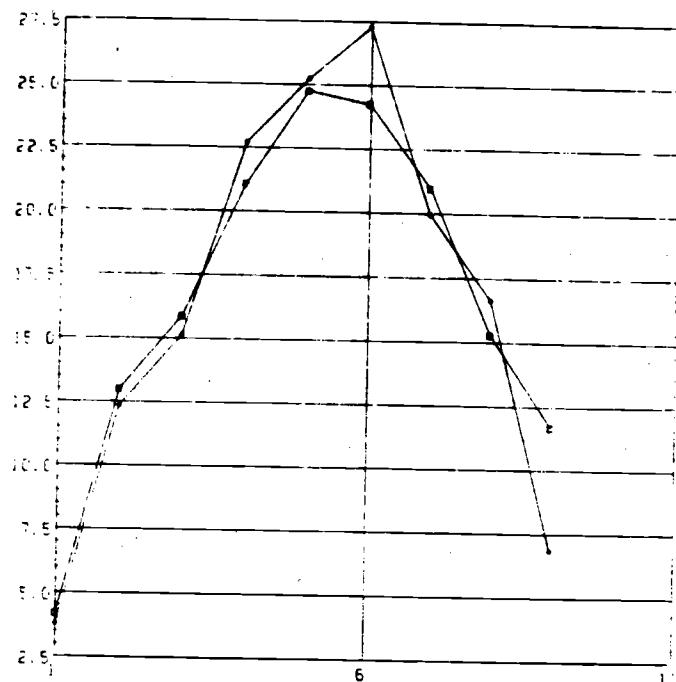
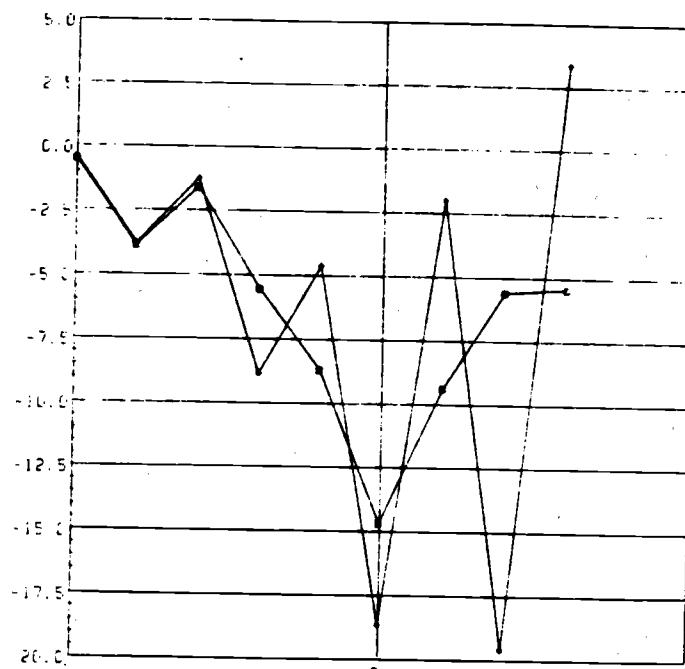
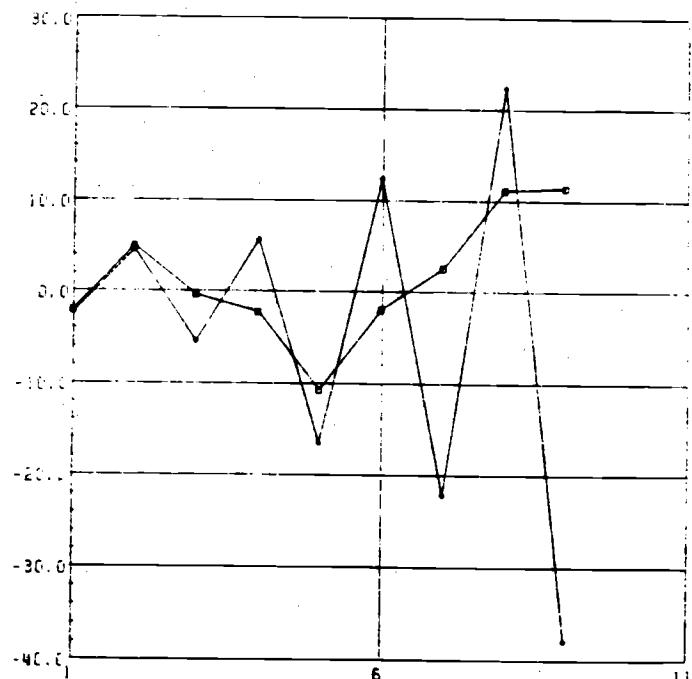
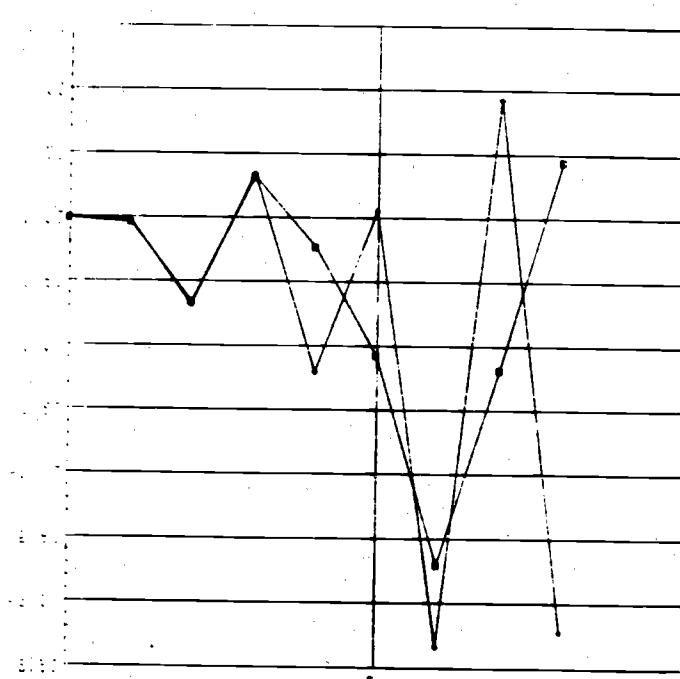
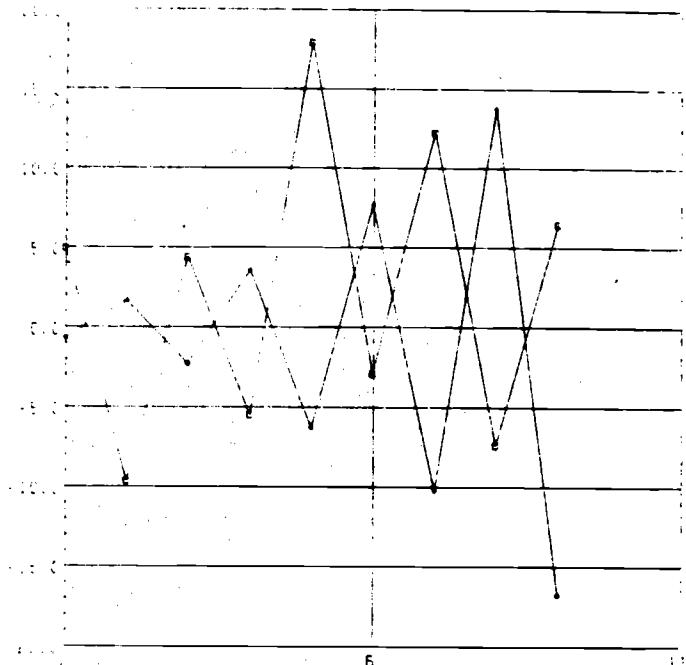
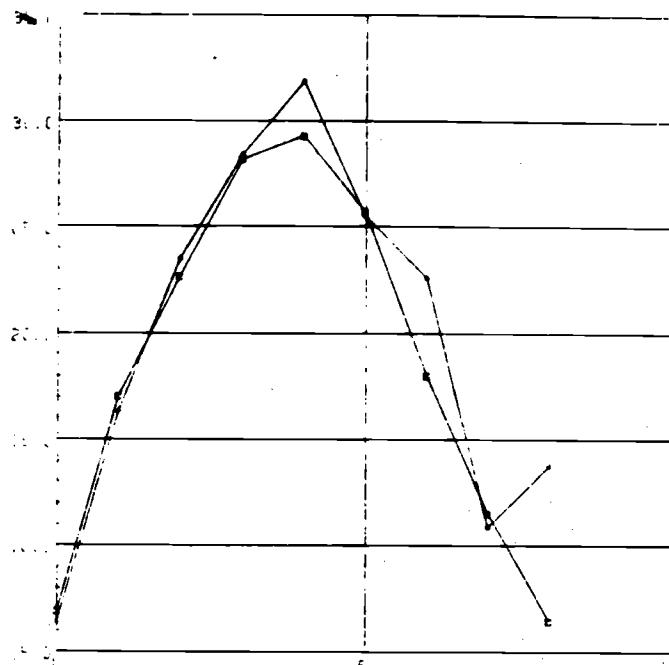
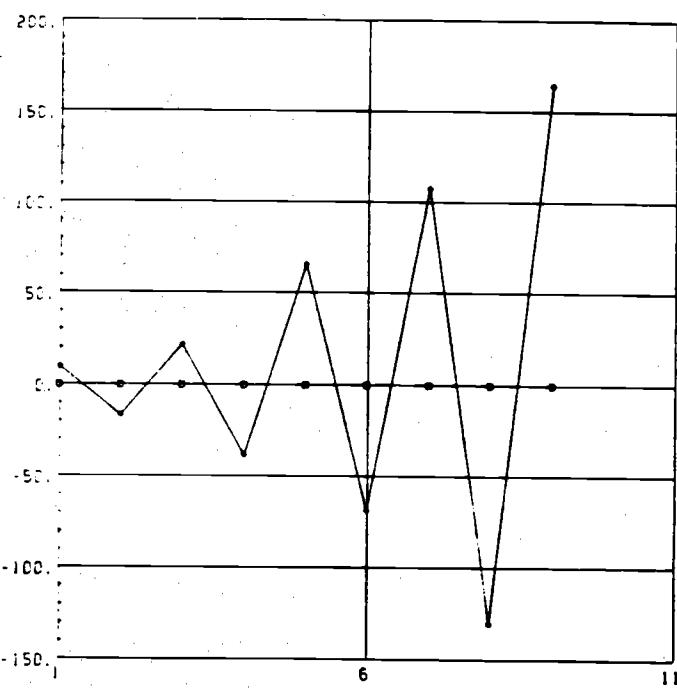
(a) Real Income -- $\log y_3$ (b) Price Level -- $\log P_3$ (c) Nominal Money -- $\log M_3$ (d) Short-Term Interest Rate -- R_3

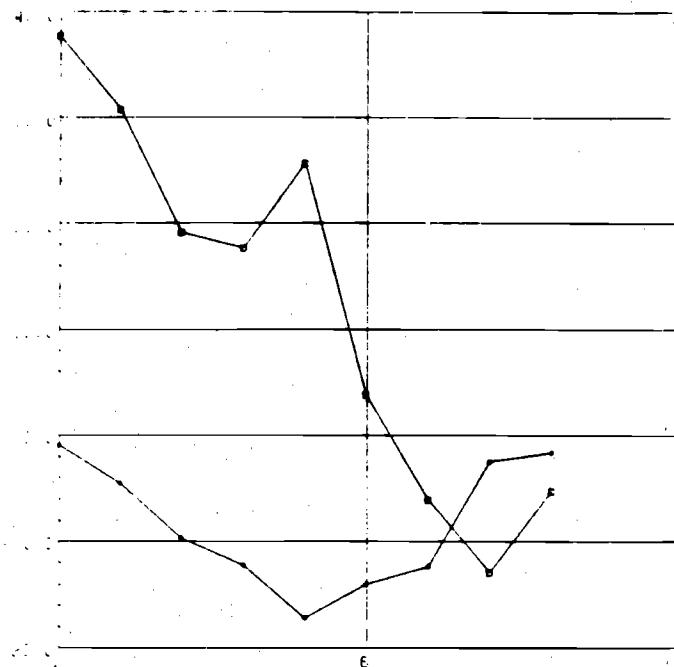
FIGURE 3 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_3$ (f) Scaled Exports -- $(X/Y)_3$ (g) Exchange Rate -- $\log E_3$

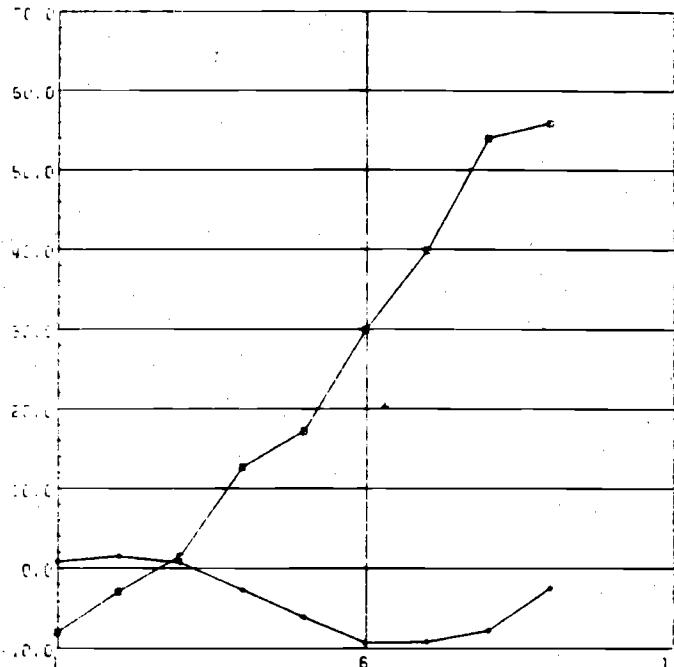
Note: Vertical scales are in basis points (actual deviations $\times 10,000$).

Key: • Pegged rate deviations
• Floating rate deviations

FIGURE 4
Deviations of Key German Variables from Base Simulations
American Money-Shock Experiments



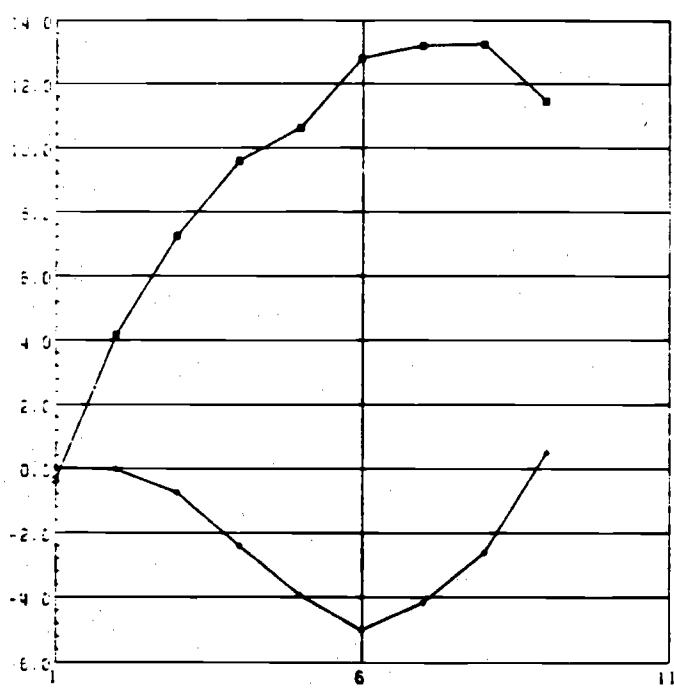
(a) Real Income -- $\log y_5$



(b) Price Level -- $\log P_5$

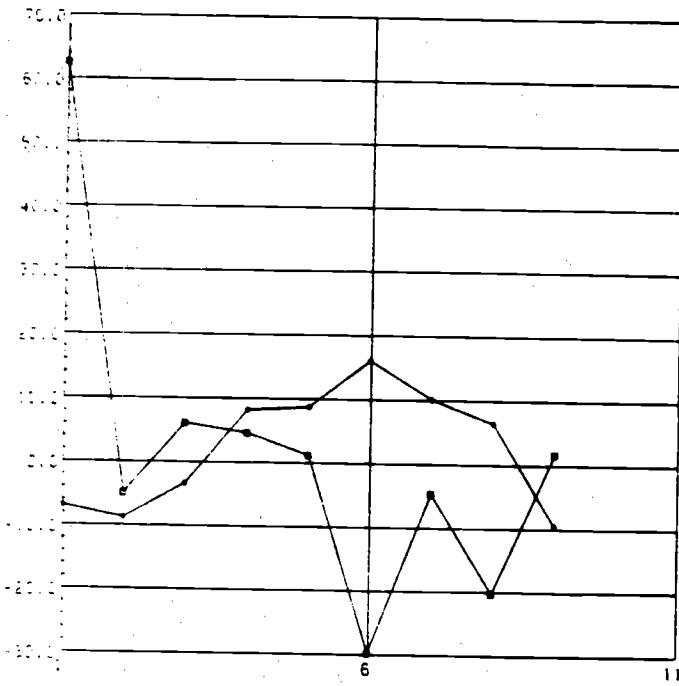
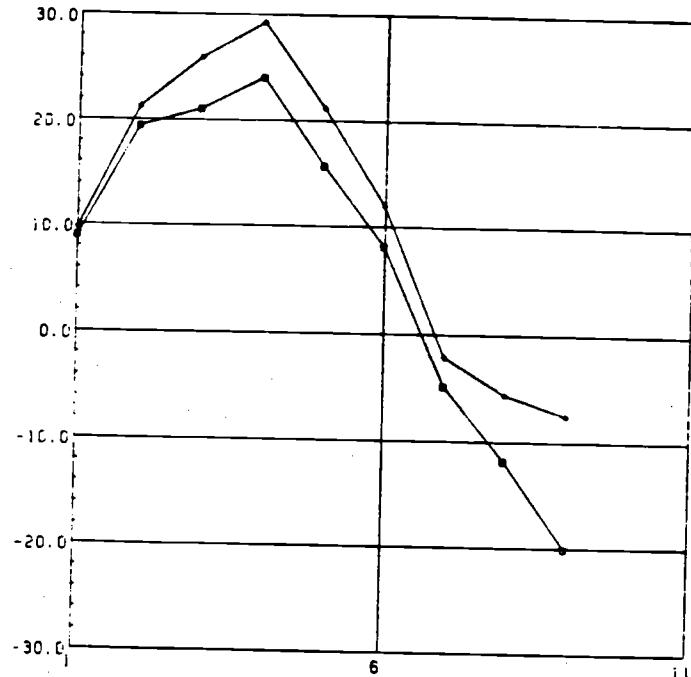
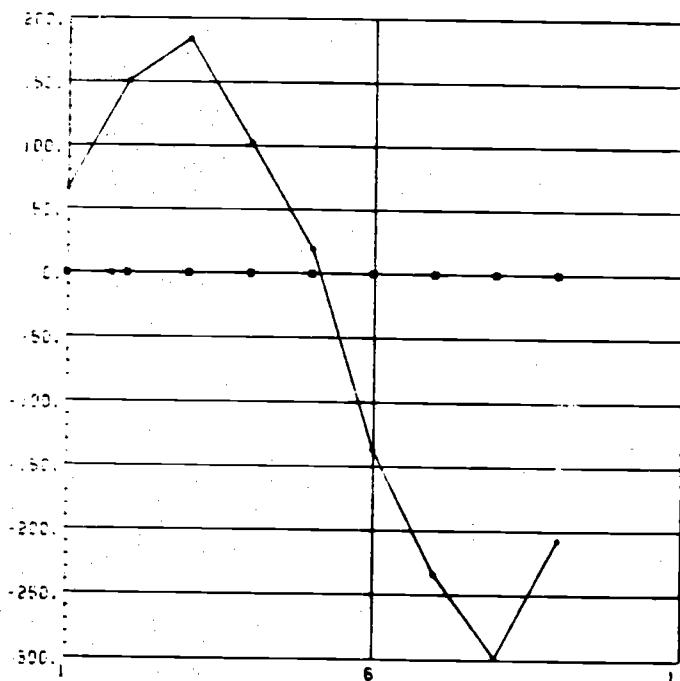


(c) Nominal Money -- $\log M_5$



(d) Short-Term Interest Rate -- R_5

FIGURE 4 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_5$ (f) Scaled Exports -- $(X/Y)_5$ (g) Exchange Rate -- $\log E_5$

Note: Vertical scales are in basis points (actual deviations \times 10,000).

Key: • Pegged rate deviations
• Floating rate deviations

FIGURE 5
Deviations of Key Dutch Variables from Base Simulations
American Money-Shock Experiments

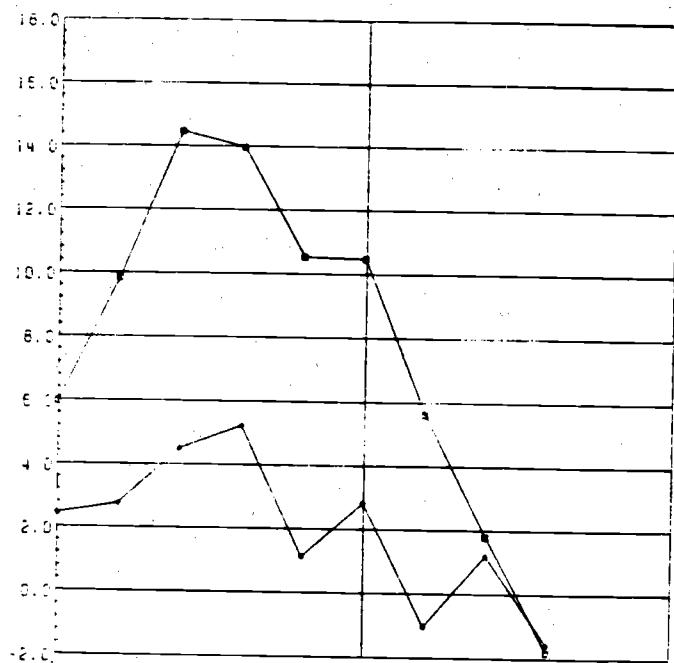
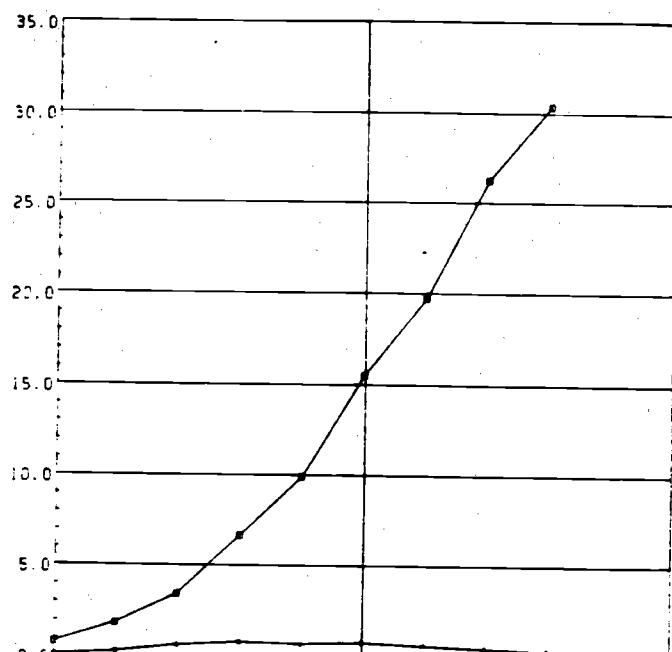
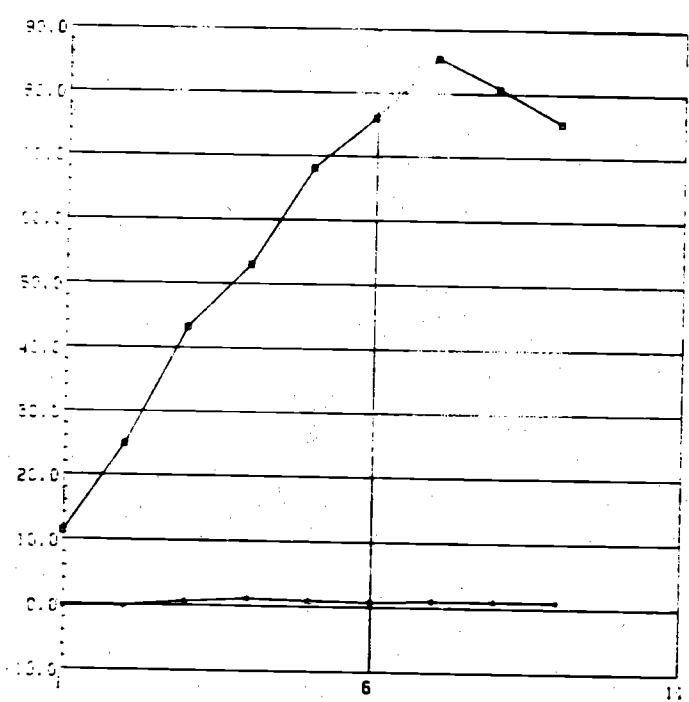
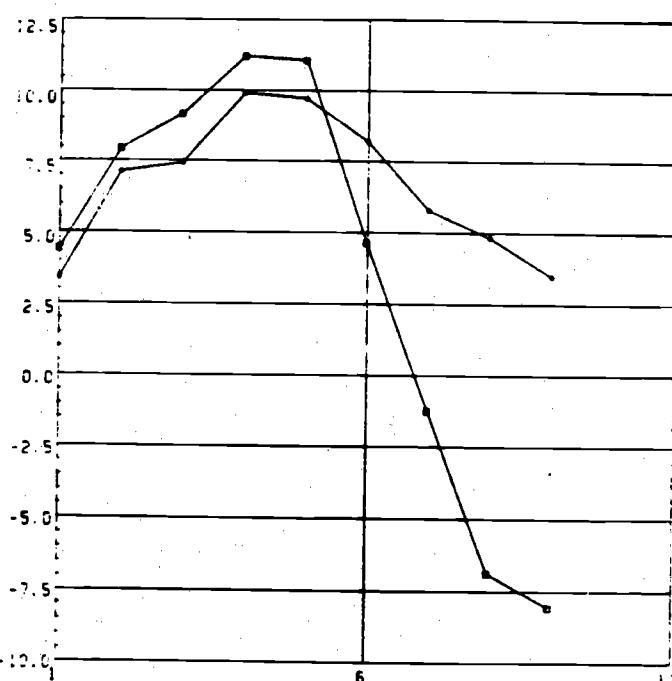
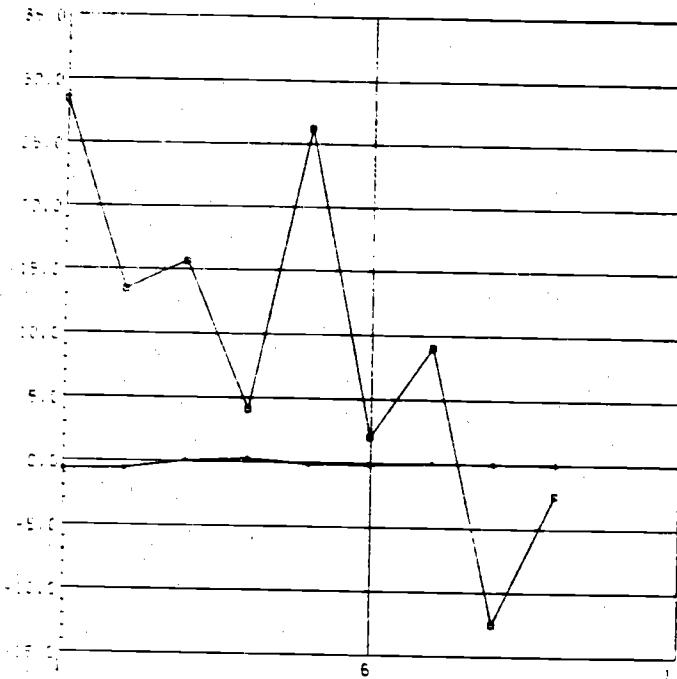
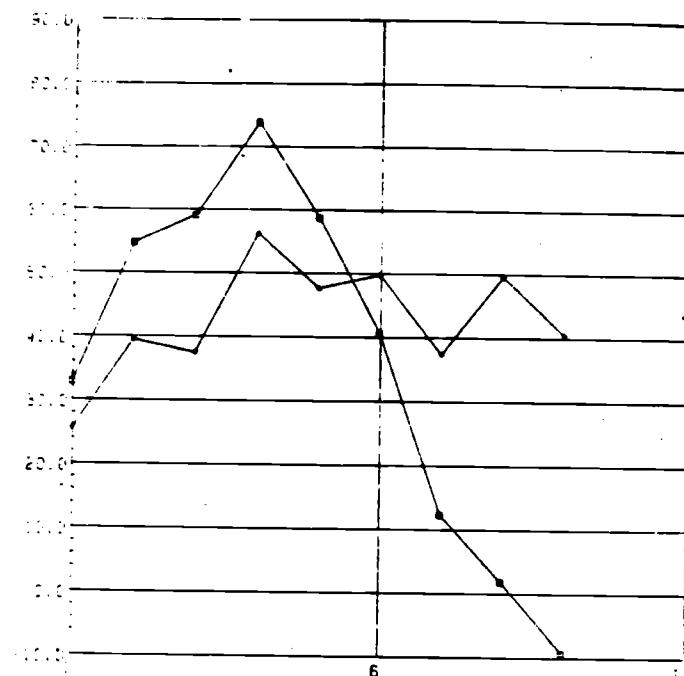
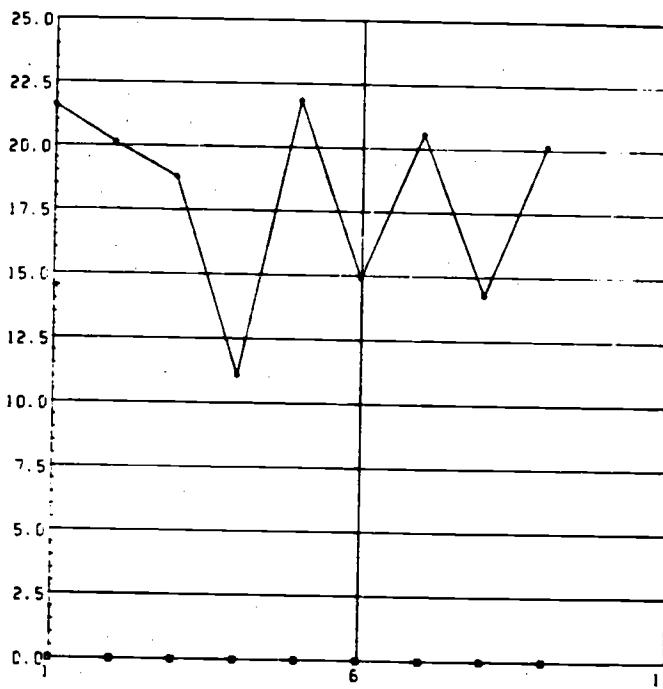
(a) Real Income -- $\log y_8$ (b) Price Level -- $\log P_8$ (c) Nominal Money -- $\log M_8$ (d) Short-Term Interest Rate -- R_8

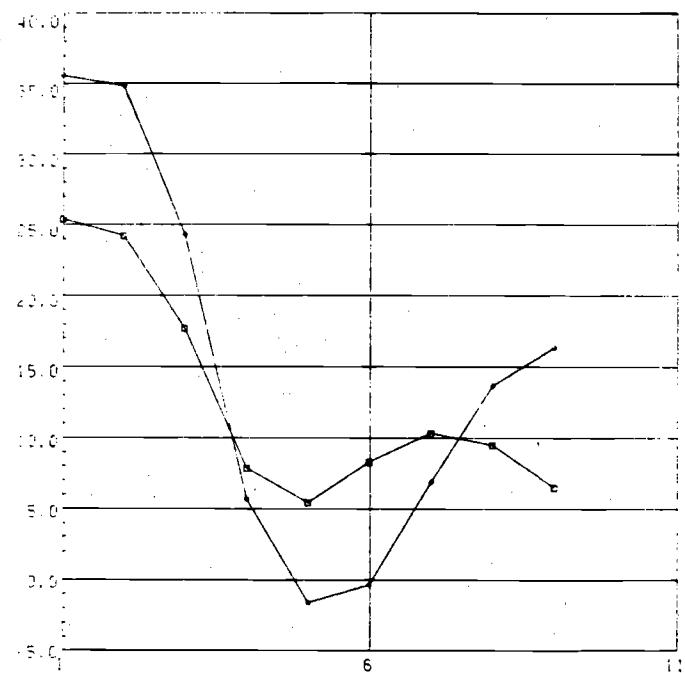
FIGURE 5 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_8$ (f) Scaled Exports -- $(X/Y)_8$ (g) Exchange Rate -- $\log E_8$

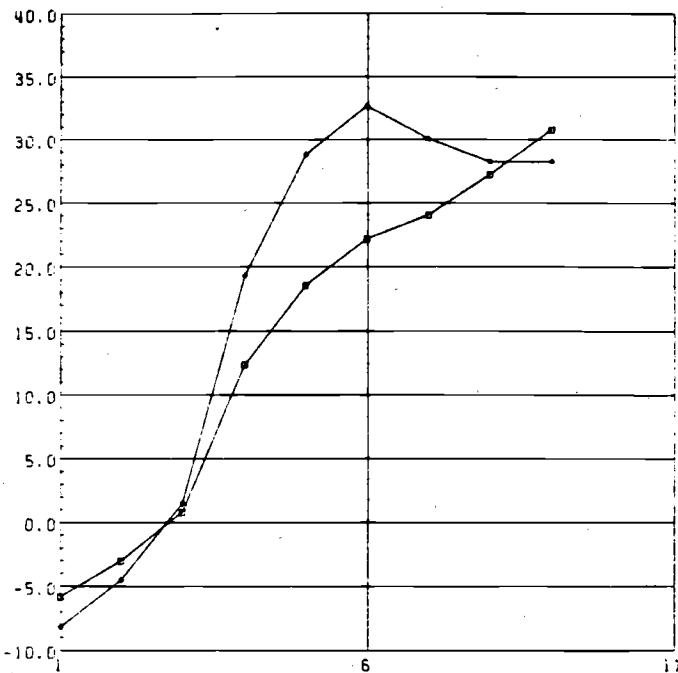
Note: Vertical scales are in basis points (actual deviations $\times 10,000$).

Key: • Pegged rate deviations
• Floating rate deviations

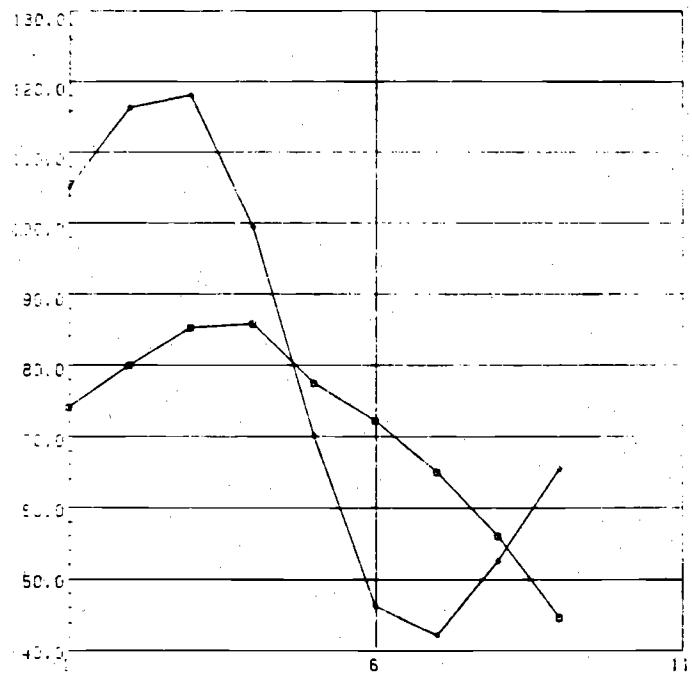
FIGURE 6
Deviations of Key German Variables from Base Simulation
German Money-Shock Experiments



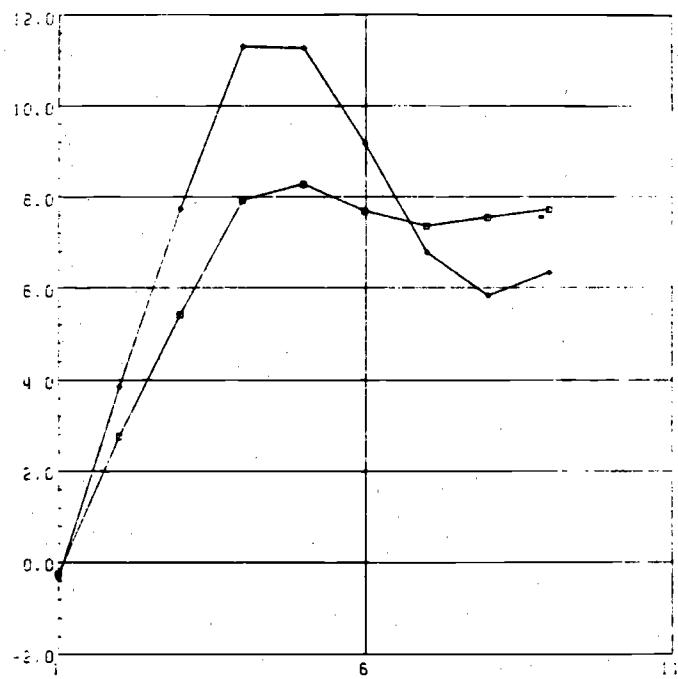
(a) Real Income -- $\log y_5$



(b) Price Level -- $\log P_5$

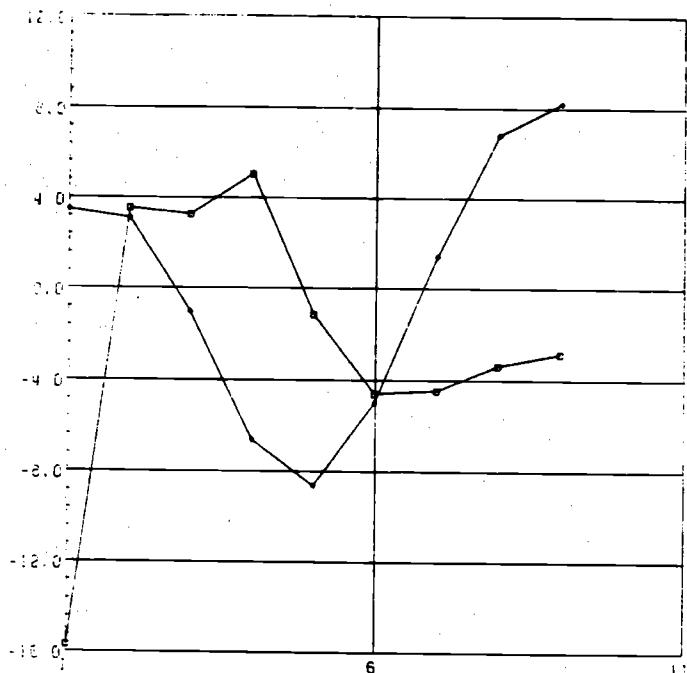
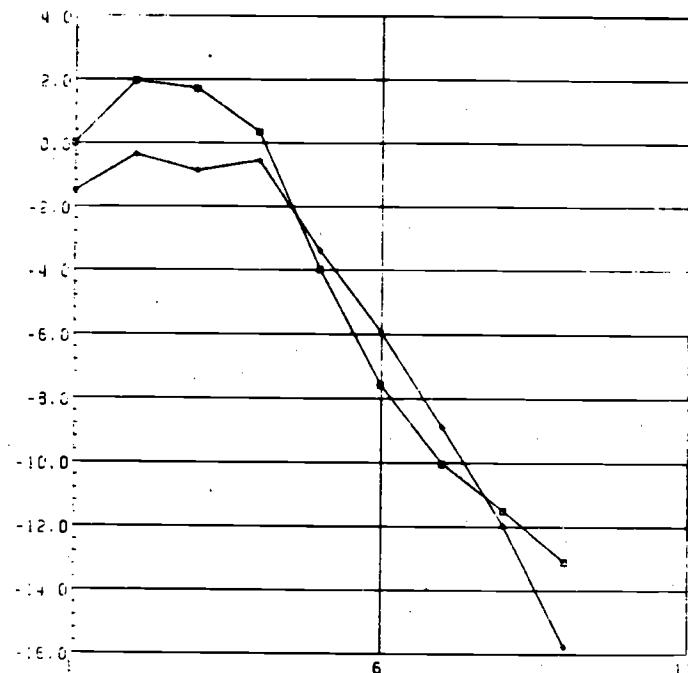
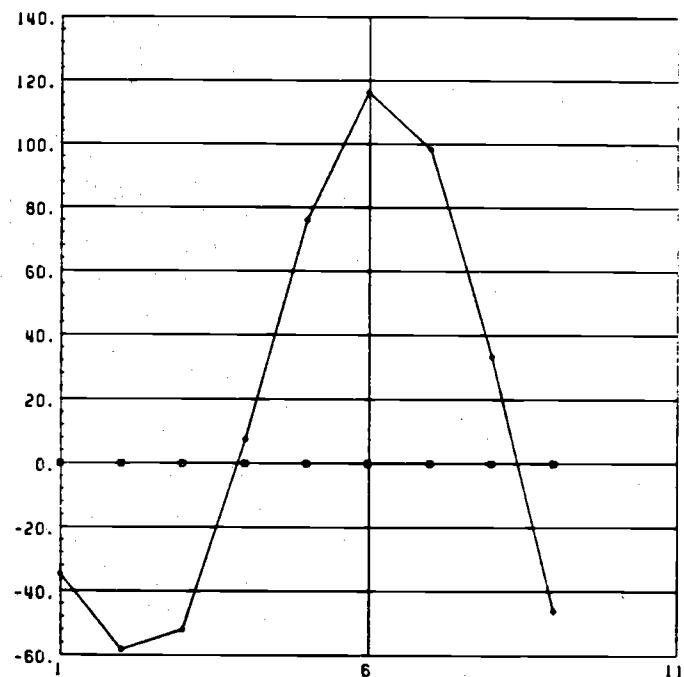


(c) Nominal Money -- $\log M_5$



(d) Short-Term Interest Rate -- R_5

FIGURE 6 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_5$ (f) Scaled Exports -- $(X/Y)_5$ (g) Exchange Rate -- $\log E_5$

Note: Vertical scales are in basis points (actual deviations $\times 10,000$).

Key: • Pegged rate deviations
• Floating rate deviations

FIGURE 7

Deviations of Key British Variables from Base Simulations
British Money-Shock Experiments

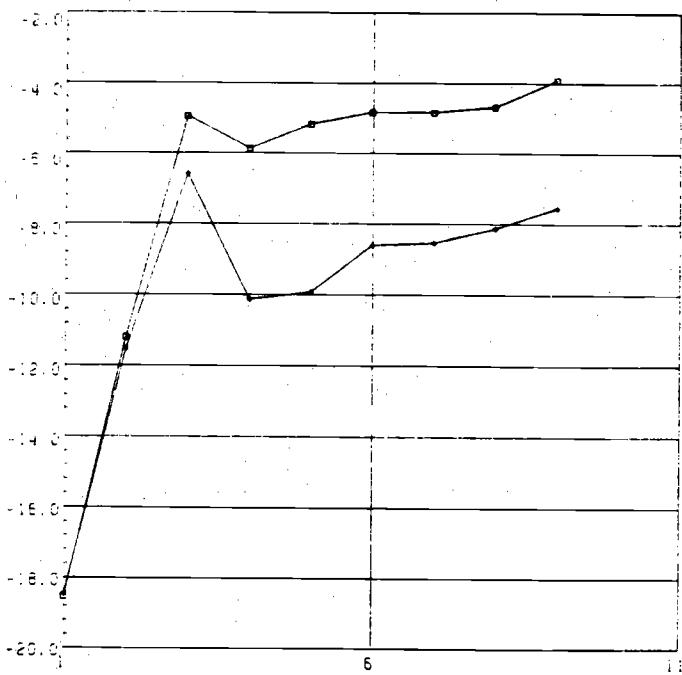
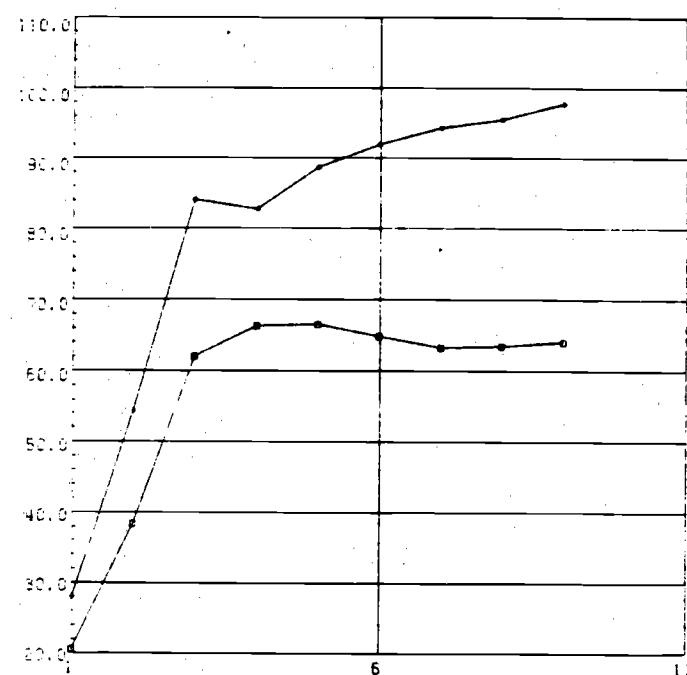
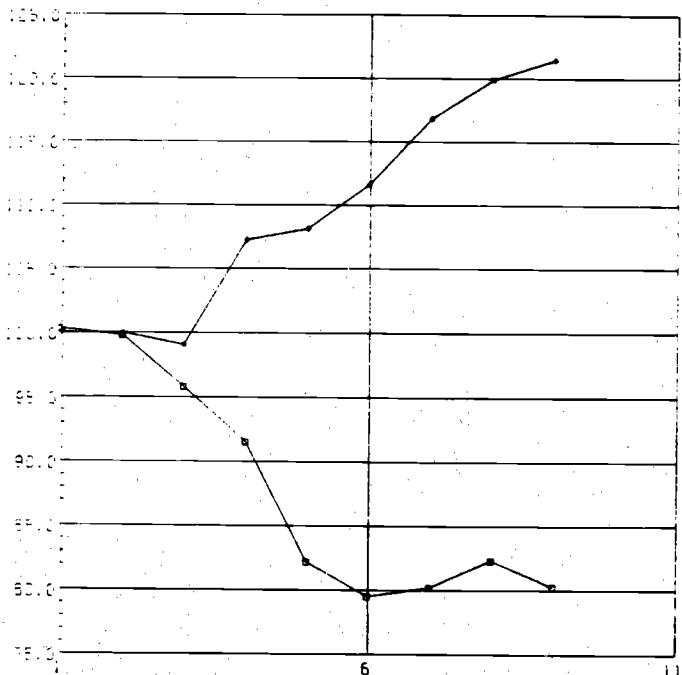
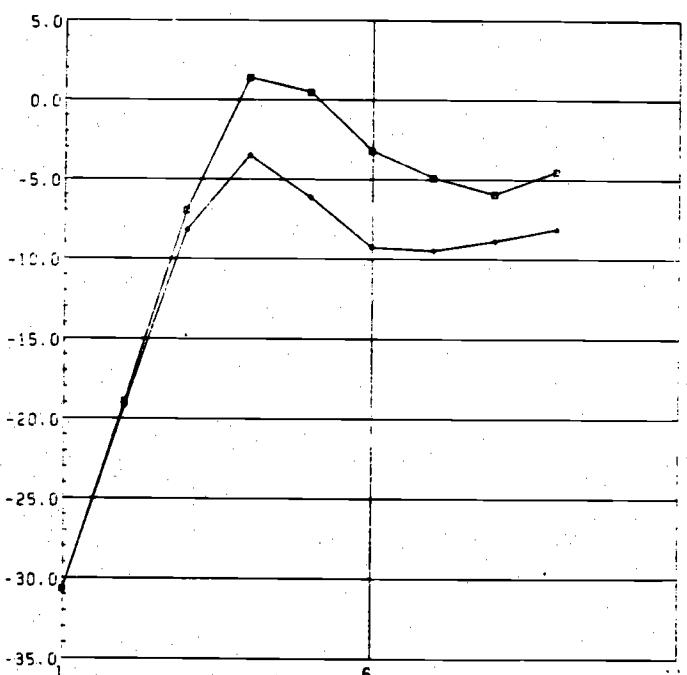
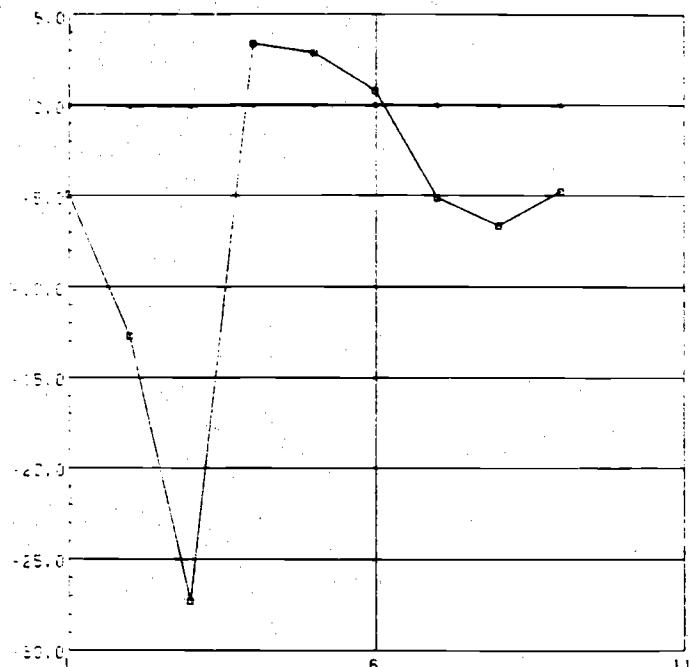
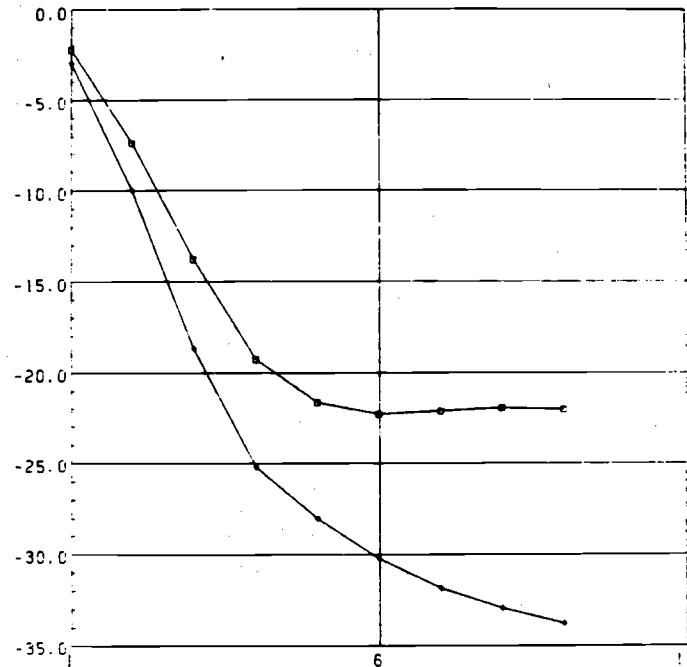
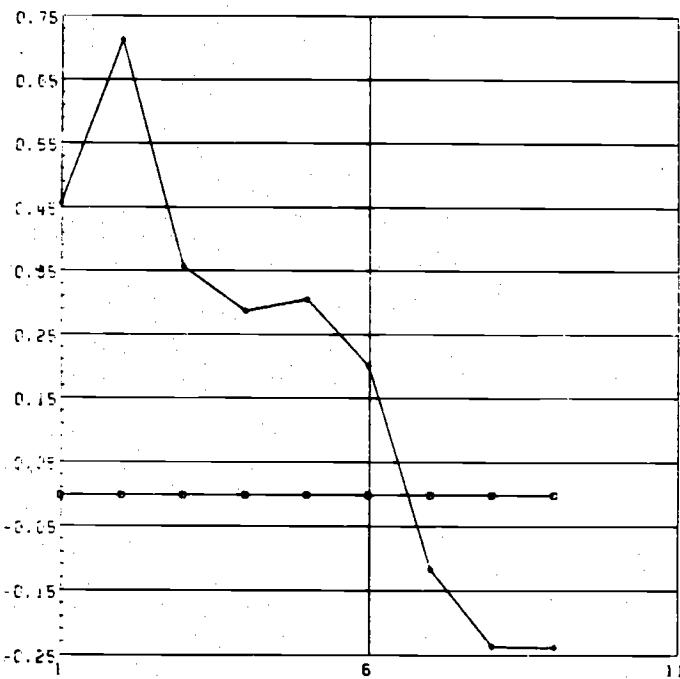
(a) Real Income -- $\log y_2$ (b) Price Level -- $\log P_2$ (c) Nominal Money -- $\log M_2$ (d) Short-Term Interest Rate -- R_2

FIGURE 7 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_2$ (f) Scaled Exports -- $(X/Y)_2$ (g) Exchange Rate -- $\log E_2$

Note: Vertical scales are in basis points (actual deviations \times 10,000).

Key:

- Pegged rate deviations
- Floating rate deviations

FIGURE 8
Deviations of Key American Variables from Base Simulations
American Government-Spending-Shock Experiments

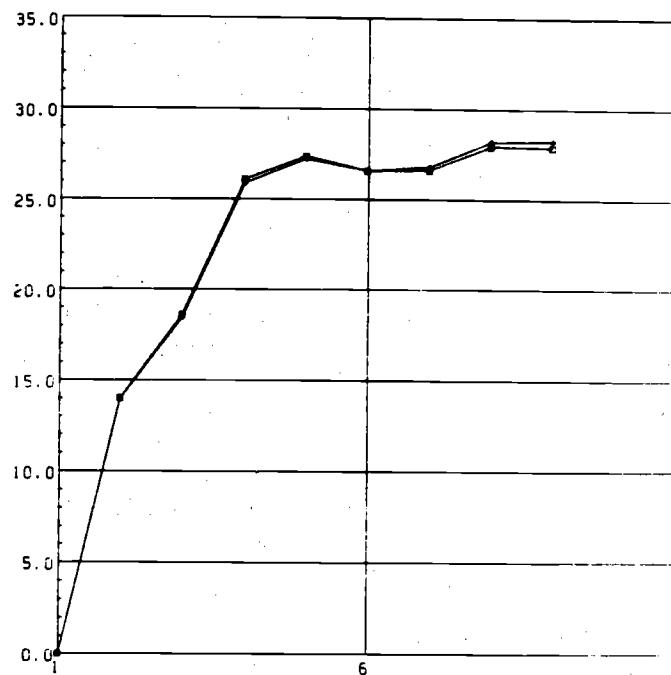
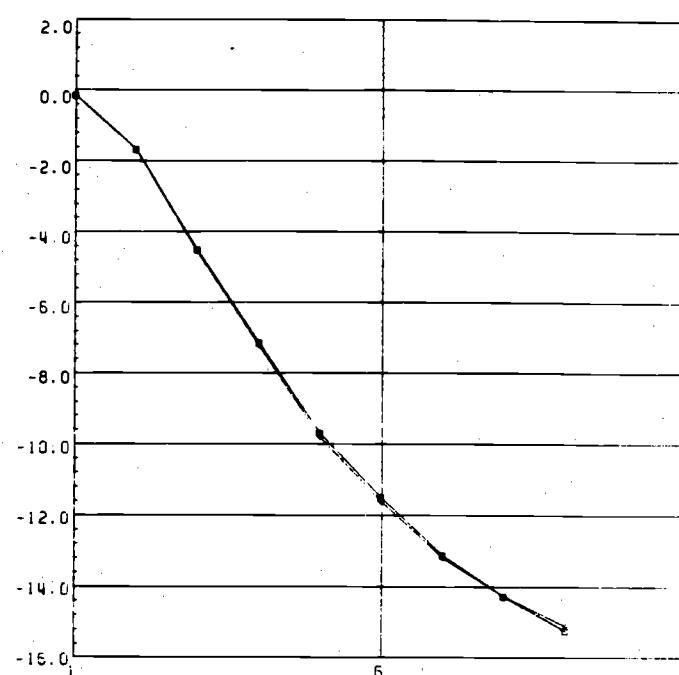
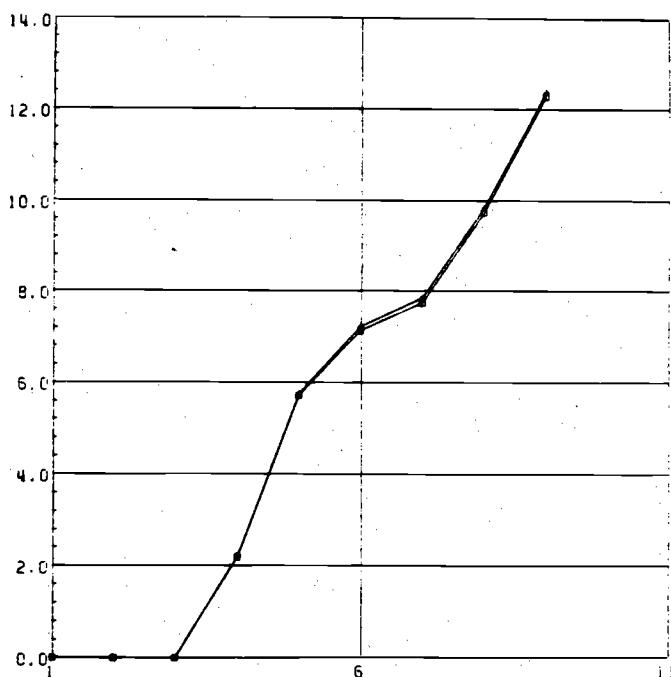
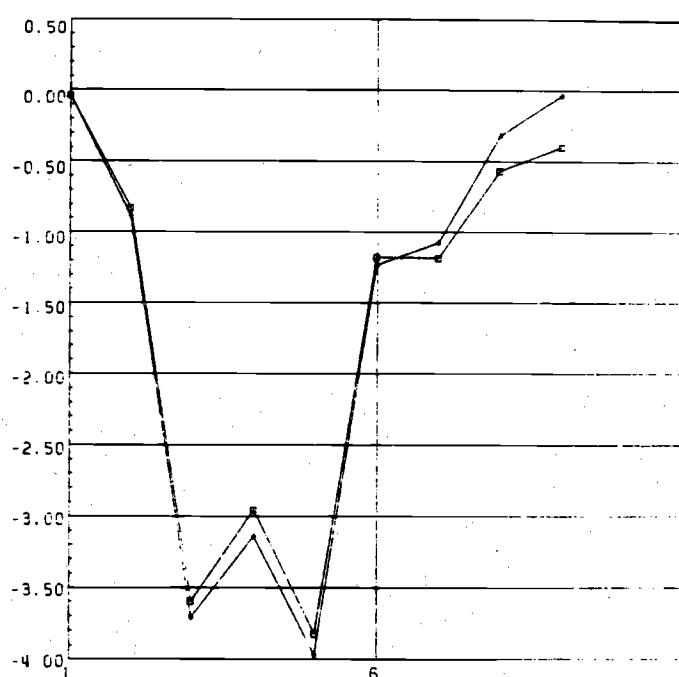
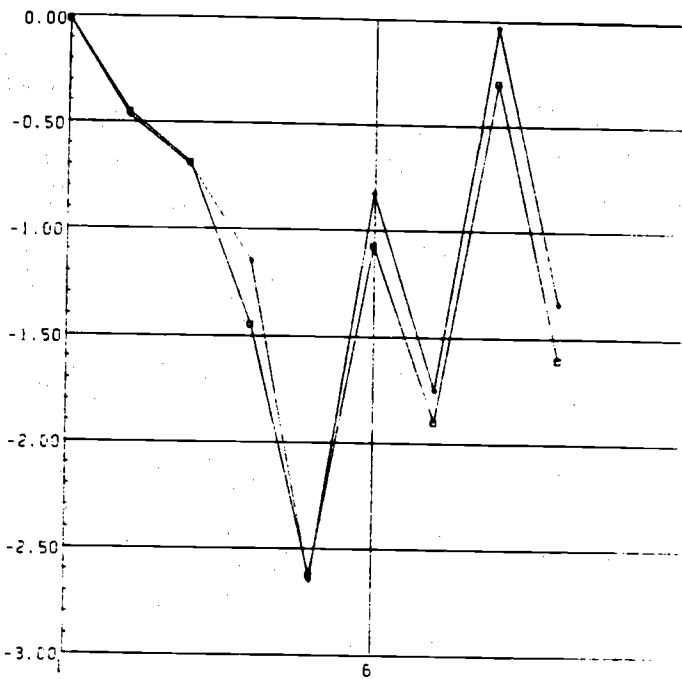
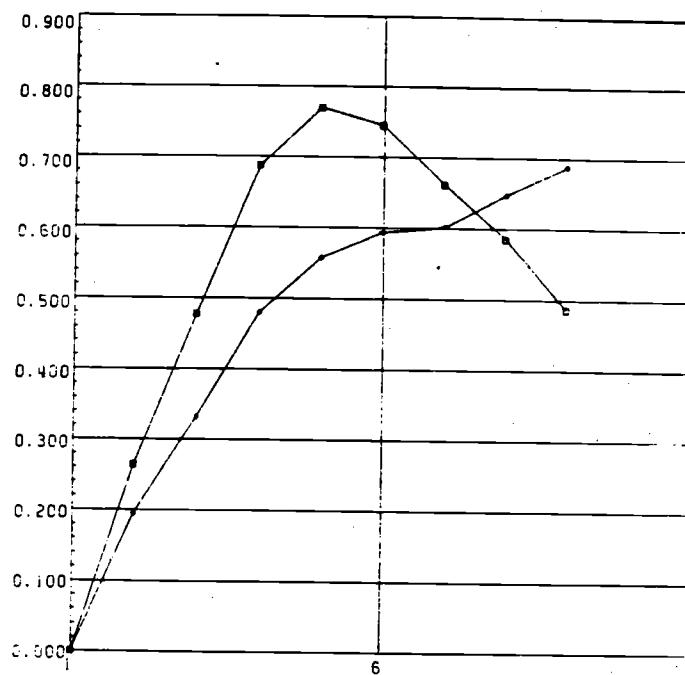
(a) Real Income -- log y_1 (b) Price Level -- log P_1 (c) Nominal Money -- log M_1 (d) Short-Term Interest Rate -- R_1

FIGURE 8 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_1$ (f) Scaled Exports -- $(X/Y)_1$

Note: Vertical scales are in basis points (actual deviations $\times 10,000$).

Key: • Pegged rate deviations
• Floating rate deviations

FIGURE 9

**Deviations of Key British Variables from Base Simulations
British Government-Spending-Shock Experiments**

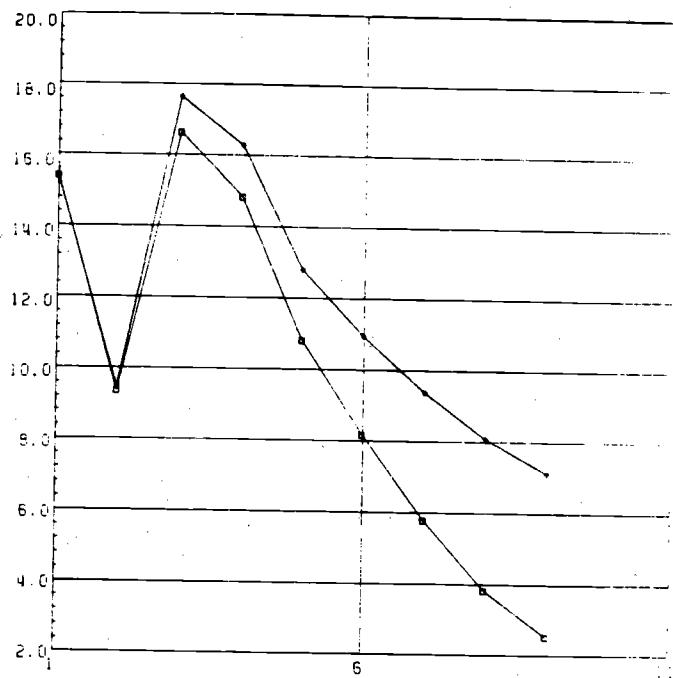
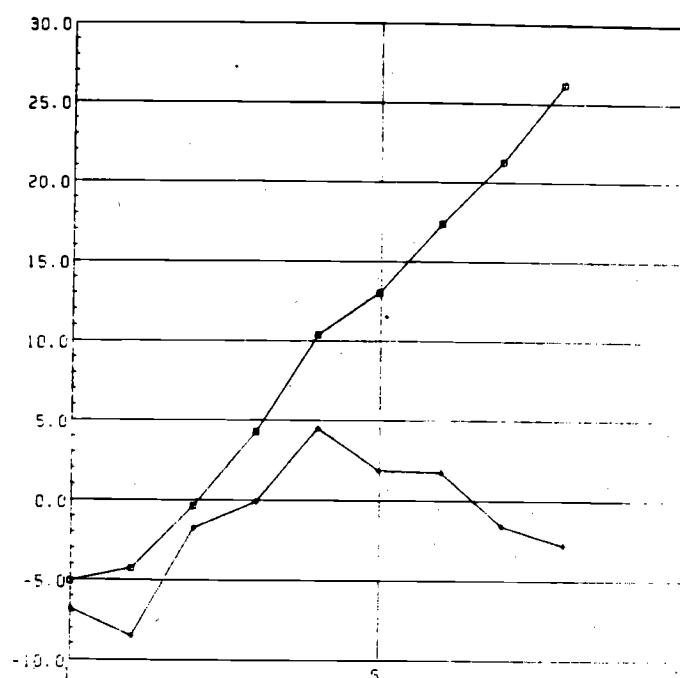
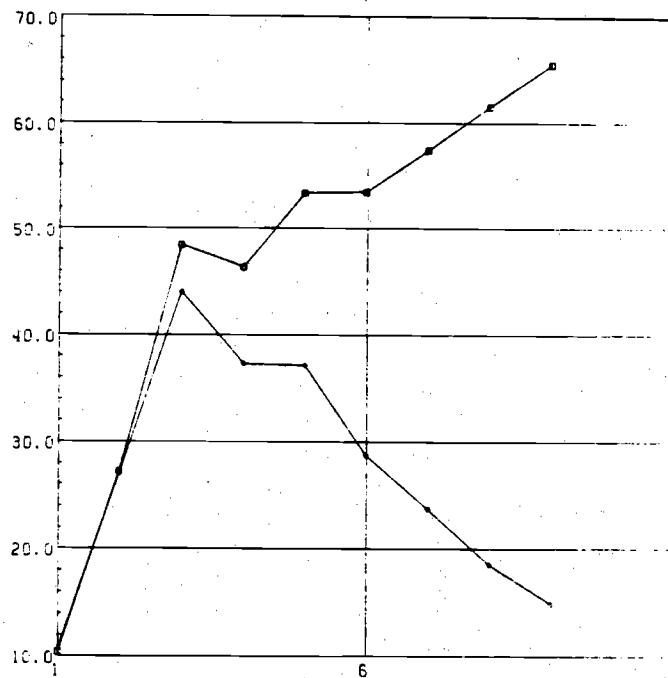
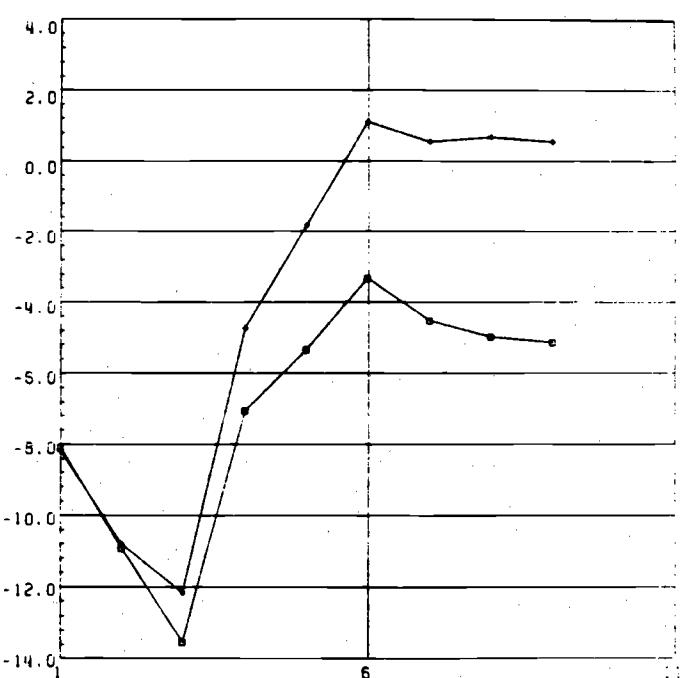
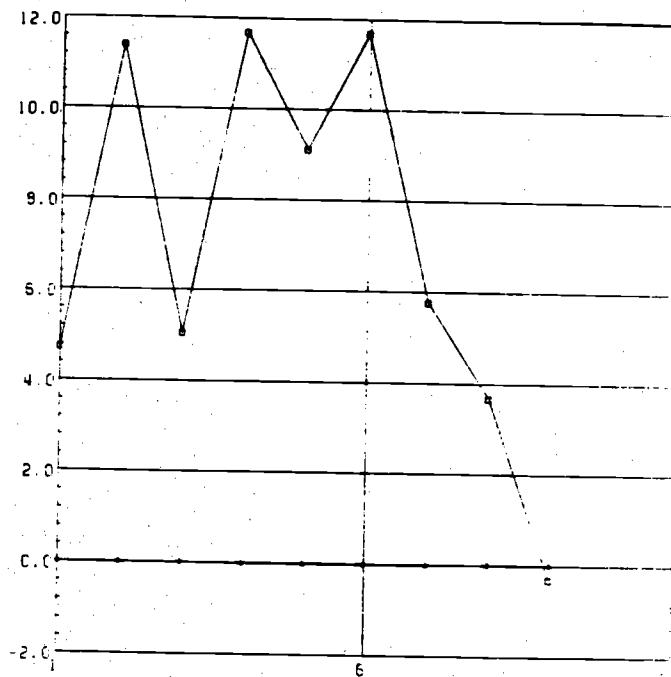
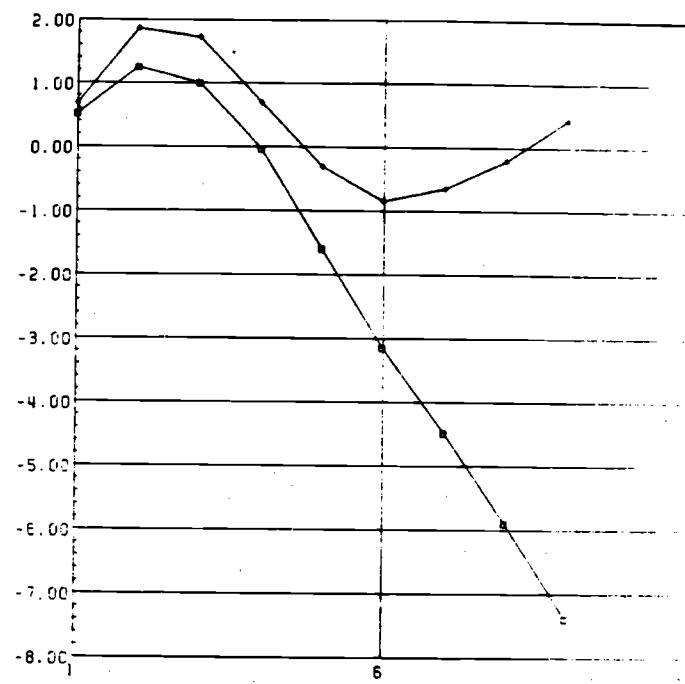
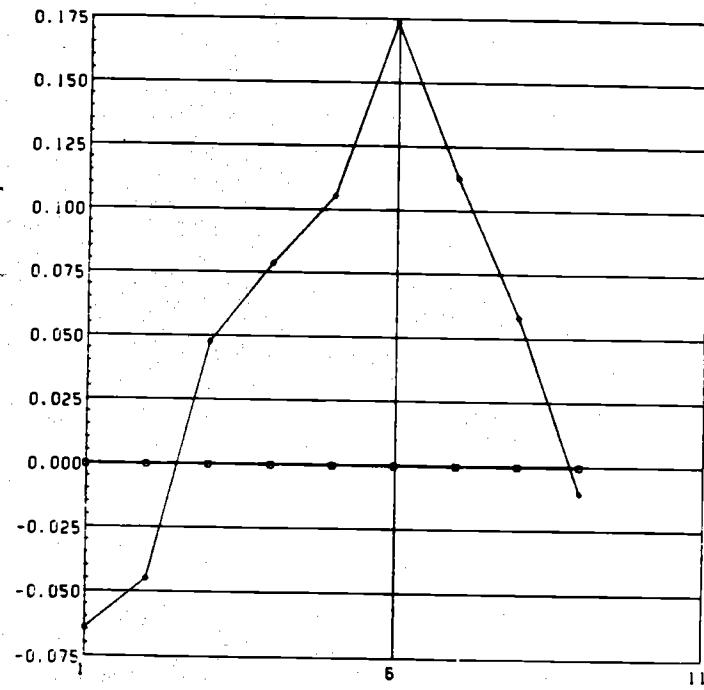
(a) Real Income -- log y_2 (b) Price Level -- log P_2 (c) Nominal Money -- log M_2 (d) Short-Term Interest Rate -- R_2

FIGURE 9 (Continued)

(e) Scaled Balance of Payments -- $(B/Y)_2$ (f) Scaled Exports -- $(X/Y)_2$ (g) Exchange Rate -- $\log E_2$

Note: Vertical scales are in basis points (actual deviations $\times 10,000$).

Key: • Pegged rate deviations
• Floating rate deviations

APPENDIX

THE MARK IV INTERNATIONAL TRANSMISSION SUMULATION MODEL

This appendix lists the Mark IV model. Table 1 defines the variables used. Table 2 lists the Mark IV-PEG used for simulations in the pegged period. Table 3 lists the Mark IV-FLT used for simulations in the floating period. Note that the "Coefficient and Parameter Values" list at the end of each table contains a number of extraneous coefficients which are irrelevant to the Mark IV model. The model is resident in the TROLL system at M.I.T. The Mark IV is a simplified version of the Mark III model described in Darby and Stockman (1980).

A few notes on TROLL's modelling language are in order: An asterisk indicates multiplication. A negative number in parentheses immediately following a variable denotes that the variable is lagged that many quarters; $X(-1) \equiv X_{-1}$. The first difference operator is $\text{DEL}(1: X) \equiv X - X(-1)$. Double equal signs (==) are used for identities with the exception of permanent income identities.

TABLE 1

Definitions of Variables and Parameters in the Mark IV Model

Country mnemonics are indicated in the listing below by double asterisks (**). The mnemonics are:

CA	Canada	JA	Japan
FR	France	NE	Netherlands
GE	Germany	UK	United Kingdom
IT	Italy	US	United States
BTOY**	Balance of payments divided by GNP (or GDP if GNP is unavailable). The balance of payments is on the official reserve settlements basis.		
CTOY**	Net capital outflows as a fraction of GNP. (Measured as CTOY** = XTOY** - ITOY** - BTOY**.)		
DMY611	Revaluation dummies with 0 everywhere except 1961 I, 1967 IV, or		
DMY674	1969 III, respectively.		
DMY693			
DV**	Nominal income weight; share of country ** in total sample nominal income.		
ER**1L	Error terms for ARIMA process of exchange-rate expectation forma-		
ER**2L	tion as defined in model.		
GRE**X11	Expected annualized growth rate of the exchange rate from present quarter to next quarter.		
GRE**X21			
GRPX1**1	Expected annualized growth rate of the price level from present quarter to next quarter.		
GRPX1**2			
ITOY**	Imports as a fraction of GNP.		
LNE**	Logarithm of the exchange rate measured in domestic currency units (DCUs) per U.S. dollar ($LNEUS \equiv 1$).		
LNG**U	Innovation in the logarithm of real government spending based on a univariate ARIMA process.		
LNM**U	Innovation in money; $LNMN** - LNMN**EX$.		
LNMN**	Logarithm of money stock measured in billions of DCUs.		
LNMN**EX	Expected value of $LNMN**$ based on a univariate ARIMA process.		
LNP**	Logarithm of the price deflator for GNP (or GDP). These deflators are measured in DCUs per 1970 DCU; so $LNP** = 0$ for 1970.		

- LNPI**** Logarithm of import price index. (LNPI** = 0 for 1970).
- LNPR**** Logarithm of an index of foreign prices converted by exchange rates into U.S. dollars per 1970 U.S. dollar. (LNPR** = 0 for 1970).
- LNQIM**** Logarithm of relative price of imports; LNPI** - LNP**.
- LNRPOIL** Logarithm of an index the real price of oil based on deflating the dollar price of Venezuelan oil by the U.S. deflator. (LNRPOIL = 0 for 1970).
- LNYR**** Logarithm of real GNP (or GDP if GNP is unavailable) measured in billions of 1970 DCUs.
- LNYR**P** Logarithm of permanent income measured in billions of 1970 DCUs.
- LNYRR**** Logarithm of an index of foreign real income (LNYRR** = 0 for 1970).
- LNYRT**** Logarithmic transitory income; LNYR** - LNYR**P.
- PEGDIF**** Logarithmic difference between actual and parity value of the exchange rate.
- R**** Short-term nominal interest rate in decimal per annum form.
(Three-months treasury bill yield where available; but a long-term government bond yield had to be used for Italy.)
- SGRPX1*1** Variables used to simulate the expected-inflation-rate transfer
SGRPX1*2 functions.
- T** Time index (1955 I = 1, 1955 II = 2, etc.)
- UN**** Unemployment rate in decimal form.
- XP**** Trend quarterly growth rate of real income used in computing logarithmic permanent income.
- XTOY**** Exports as a fraction of GNP.
- XTOY**EX** Expected value of XTOY** based on a univariate ARIMA process.
- XTOY**U** Innovation in scaled exports; XTOY** - XTOY**EX.
- Z1**1** Variables used to simulate the expected-inflation-rate transfer
Z11L** functions.
- Z1**2**
- Z2**1**
- ZP**** Weight of current income in forming logarithmic permanent income
(taken as 0.025 in all cases).

TABLE 2

The Pegged Period Model: Mark IV-PEG

SYMBOL DECLARATIONS

ENDOGENOUS:

EXULTANUS:

UHY611 UHY674 UHY693 LNECA LNEFR LNEGE LNEIT LNEJA LNEKE LNEUK LNEUS LNGCAU LNGERU
LNGGLU LNGI7U LNGJAL LNGNEU LNGKU LNGUSU LNGVIL FEGUINIT FEGUJVA FEGUJVE 7

Coefficients:

PARAMETERS:

~~UHEKT~~ ~~UVCA~~ ~~DVPR~~ ~~DVGE~~ ~~DVIT~~ ~~DVJA~~ ~~DVNE~~ ~~DVUK~~ ~~DVUS~~ ~~XPCA~~ ~~XPPK~~ ~~XPGE~~ ~~XPTT~~ ~~XPAJ~~ ~~XPMI~~ ~~XPUA~~ ~~XPUS~~
~~ZPCA~~ ~~ZPER~~ ~~ZPGE~~ ~~ZPIT~~ ~~ZPJA~~ ~~ZPNE~~ ~~ZPUK~~ ~~ZPUS~~

EQUATIONS

1: $LNYKUSP = (1-ZFUS)*XFOUS+ZFUS*LNYKUS+(1-ZFUS)*LNYKUSP(-1)$
 2: $BTUYUS == XTOYUS-110YUS-CTOYUS$
 3: $LNQIMUS == LNPIIMUS-LNPUS$
 4: $LNMUSU == LNMNUUS-LNMNUSEX$
 5: $LNMNUSEX == 2*LNMNUUS(-1)-LNMNUUS(-2)-0.44937*(DLE(1 : LNMNUUS(-1))-DEL(1 : LNMNUUS(-2)))$
 $+0.00021-0.8094*LNMUSU(-2)$
 6: $XTOYUSU == XTOYUS-XTOYUSEX$
 7: $XTOYUSEX == XTOYUS(-1)+0.35462*X10YUSU(-2)+0.20228*X10YUSU(-3)+0.00053$
 8: $LNYKTUS == LNYKUS-LNYKUP$
 9: $LNYKURS == (DVUK*LNYKUR+DVCA*LNYKCA+DVFK*LNYKFR+DVGE*LNYKGE+DVIT*LNYKIT+DVJA*LNYKJA+$
 $DVNE*LNYKNE)*1/(1-DVUS)-7.40946$
 10: $LNFKUS == (DVUK*(LNFUK-LNEUK)+DVCA*(LNFCU-LNECU)+DVFK*(LNFKE-LNEFE)+DVGE*(LNFGE-LNEGEGE)$
 $+DVIT*(LNFIT-LNEIT)+DVJA*(LNFAJA-LNEJA)+DVNE*(LNFHE-LNEHE))*1/(1-DVUS)+2.53058$
 11: $GREUKXII == 4*(LNUK+LNUK*DEL(1 : LNEUK)+LNUK*LNUK(-1))$
 12: $ZIUS1L == 4*DEL(1 : LNPUS)-GRPXIUS1(-1)$
 13: $GRPXIUS1 == 4*(KUUS+K2US*LNMNUUS(-1)+K3US*LNMNUUS(-2)+K4US*DEL(1 : LNYKUS(-1))+K5US*KUS$
 $+K9US*LNPUS(-1)+K10US*LNPUS(-2)+K11US*LNMUSU(-1))+K14US*ZIUS1L+K15US*ZIUS1L(-1)$
 14: $LNFUS = BLUS+LNMNUUS+b2US*LNYKUSP+b3US*LNYK7US+b4US*KUS+B5US*(LNMNUUS(-1)-LNFUB(-1))+$
 $b6US*LNMUSU+b7US*LNMUSU(-1)+b8US*LNMUSU(-2)+b9US*LNMUSU(-3)$
 15: $LNYKUS = A1US+A2US*LNYKUSP(-1)+(1-A2US)*LNYKUS(-1)+A3US*LNMUSU+A4US*LNMUSU(-1)+u*$
 $LNMUSU(-2)+A6US*LNMUSU(-3)+u*LNGUSU+A8US*LNGUSU(-1)+A9US*LNGUSU(-2)+A10US*LNGUSU(-3)+$
 $A11US*XTOYUSU+A12US*XTOYUSU(-1)+u*X10YUSU(-2)+u*X10YUSU(-3)$
 16: $DEL(1 : UNUS) = C1US+C2US*DEL(1 : LNYKUS)+C21US*DEL(1 : LNYKUS(-1))+C22US*DEL(1 :$
 $LNYKUS(-2))+C23US*DEL(1 : LNYKUS(-3))+C24US*DEL(1 : LNYKUS(-4))+C26US*DEL(1 : LNYKUS(-5))$
 $+C27US*DEL(1 : LNYKUS(-7))$
 17: $DEL(1 : LNMNUUS) = E1US+E2US*I+u*LNGUSU+e5US*(LNGUSU(-3)+LNGUSU(-4))+e6US*(LNFUS(-3)-$
 $LNFUS(-5))+u*UNUS(-1)+e11US*UNUS(-2)+e12US*UNUS(-3)+u*UNUS(-4)+e20US*DEL(1 : LNMNUUS(-1))$
 $+e21US*DEL(1 : LNMNUUS(-2))$
 18: $KUS = D0US+D1US*GRPXIUS1+D14US*KUS(-1)+D16US*GRPXIUS1(-1)+D15US*I+D2US*LNMUSU+D3US*$
 $LNMUSU(-1)+u*LNMUSU(-2)+D5US*LNMUSU(-3)+u*LNGUSU+u*LNGUSU(-1)+u*LNGUSU(-2)+u*LNGUSU(-3)$
 $+D10US*XTOYUSU+D11US*XTOYUSU(-1)+D12US*XTOYUSU(-2)+u*XTOYUSU(-3)$
 19: $LNPIMUS = LNPIIMUS(-1)+F0US+F1US*DEL(1 : LNPIIMUS(-1))+F20US*DEL(1 : LNPIIMIL)+u*DEL(1$
 $: LNYKURS)+F40US*DEL(1 : IT0YUS)+F50US*DEL(1 : LNPUS)$
 20: $IT0YUS = I0US+I1US*I10YUS(-1)+I2US*LNYKUSP+I3US*LNYKTUS+I4US*LNYKTUS(-1)+I5US*LNGIMUS$
 $+I6US*LNGIMUS(-1)+I7US*LNGIMUS(-2)+u*LNGIMUS(-3)$
 21: $XTOYUS = H0US+BLUS*LNRPOIL+H2US*LNYKUS+H3US*I+H4US*XTOYUS(-1)+u*XTOYUS(-2)+u*LNFKUS+$
 $u*LNFKUS(-1)+H8US*LNYKUR+u*LNYKUR(-1)+u*LNPUS+u*LNPUS(-1)$
 22: $CTOYUS = G0US+G1US*T+u*LNRPOIL+u*KUS+u*GREUKXII+u*KUK+G6US*(XTOYUS-XTOYUS)+u*LNYKTUS+$
 $u*DEL(1 : LNYKUS)+u*DEL(1 : LNYKUR)+u*DEL(1 : RUS)+u*DEL(1 : RUS(-1))+G12US*DEL(1 : KUS(-2))+u*DEL(1 : KUK)+u*DEL(1 : KUK(-1))+G22US*DEL(1 : KUK(-2))+u*DEL(1 : GREUKXII)$
 $+u*DEL(1 : GREUKXII(-1))+G32US*DEL(1 : GREUKXII(-2))$
 23: $LNYKUP = (1-ZFUK)*XFOUK+ZFUK*LNYKUA+(1-ZFUK)*LNYKUP(-1)$
 24: $LNQIMUK == LNPIIMUK-LNPUS$
 25: $LNMUKU == LNMNUK-LNMNUKLX$
 26: $LNMNUKEX == LNMNUK(-1)+0.21096*(LNMNUK(-1)-LNMNUK(-2))+0.20454*(LNMNUK(-2)-LNMNUK(-3))$
 $+0.00627$
 27: $XTOYUKU == XTOYUK-XTOYUKEX$
 28: $XTOYUKEX == XTOYUK(-1)+0.2491*XTOYUK(-2)-0.14272*XTOYUK(-4)-0.37636*XTOYUK(-7)+$
 0.00054
 29: $BTGYUK == XTOYUK-IT0YUK-CTOYUK$
 30: $LNYKTUK == LNYKUR-LNYKUP$
 31: $LNYKUR == (DVUS*LNYKUR+DVCA*LNYKCA+DVFK*LNYKFR+DVGE*LNYKGE+DVIT*LNYKIT+DVJA*LNYKJA+$
 $DVNE*LNYKNE)*1/(1-DVUK)-7.36066$

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32: LNPURK == (DVUS*(LNPUS-LNEUS)+DVCA*(LNPCA-LNECA)+DVFK*(LNPFK-LNEFK)+DVGE*(LNPGF-LNEGE)
) +DVIT*(LNPII-LNEII)+DVJA*(LNPAJ-LNEJA)+DVNE*(LNPNL-LNENL))*1/(1-DVCA)+1.3e47a
33: ZIUKIL == 4*DEL(1 : LNPURK)-GRPXIUKI(-1)
34: GRPXIUKI == 4*(KOUK+KLUK*LNMNUKEA+K2UK*LNMNUK(-1)+K3UK*LNMNUK(-2)+K4UK*DEL(1 : LNYRUK
(-1))+U*KUK+U*RUK(-1)+A7UK*(KUS+GREUKXII)+KOUK*(KUS(-1)+GRULUKXII(-1))+KYUK*LNPURK(-1)+KLUUK*LNPURK(-2)+K11UK*LNMUKU(-1)+U*LNMUKU(-2)+U*LNMUKU(-3))+K14UK*ZIUKIL+K15UK*ZIUKIL
(-1)
35: LNPURK = BIUK+LNMNUK+B2UK*LNYRUK+B3UK*LNYRUK+B4UK*RUK+B10UK*(KUS+GREUKXII)+B5UK*(LNMNUK(-1)-LNPURK(-1))+B6UK*LNMUKU+U*LNMUKU(-1)+U*LNMUKU(-2)+U*LNMUKU(-3)
36: LNYRUK = AIUK+A2UK*LNYRUK(-1)+(1-AZUA)*LNYRUK(-1)+A3UK*LNMUKU+U*LNMUKU(-1)+U*LNMUKU(-2)+U*LNMUKU(-3)+A7UK*LNGUKU+U*LNGUKU(-1)+A9UK*LNGUKU(-2)+U*LNGUKU(-3)+U*XTOYUKU+
A12UK*XTOYUKU(-1)+U*XTOYUKU(-2)+U*XTOYUKU(-3)
37: DEL(1 : UNUK) = CIUK+C20UK*DEL(1 : LNYRUK)+C21UK*DEL(1 : LNYRUK(-1))+C22UK*DEL(1 : LNYRUK(-2))+C23UK*DEL(1 : LNYRUK(-3))+C24UK*DEL(1 : LNYRUK(-4))+C25UK*DEL(1 : LNYRUK(-5))
38: DEL(1 : LNMNUK) = E1UK+U*T+E3UK*LNGUKU+E4UK*(LNGUKU(-1)+LNGUKU(-2))+E11UK*UNUK(-2)+E12UK*UNUK(-3)+E13UK*UNUK(-4)+E14UK*BTOYUK+E15UK*U*BTOYUK+E16UK*(BTOYUK(-1)+BTOYUK(-2))+E18UK*(BTOYUK(-3)+BTOYUK(-4))
39: RUK = DUUK+D1UK*GRPXIUKI+D14UK*RUK(-1)+U*GRPXIUKI(-1)+D15UK*I+D2UK*LNMUKU+U*LNMUKU(-1)+U*LNMUKU(-2)+D5UK*LNMUKU(-3)+D6UK*LNGUKU+U*LNGUKU(-1)+U*LNGUKU(-2)+U*LNGUKU(-3)+D10UK*XTOYUKU+U*XTOYUKU(-1)+U*XTOYUKU(-2)+D13UK*XTOYUKU(-3)
40: LNPIMUK = LNPIMUK(-1)+F1UK+F30UK*DEL(1 : LNYRUK)+F5UK*DEL(1 : LNPURK)+F6UK*DEL(1 : LNEUK)
41: ITOYUK = I1UK+I2UK*LNYRUK+I3UK*LNYRUK+U*LNYRUK(-1)+I5UK*LNC1MUK+I6UK*LNC1MUK(-1)+U*LNC1MUK(-2)+U*LNC1MUK(-3)
42: XTOYUK = H1UK+H2UK*LNEUK+(H3UK+H4UK*U)*LNEUK(-1)+H5UK*LNPURK+H7UK*T+H8UK*XTOYUK(-1)+U*XTOYUK(-2)+H10UK*LNPURK+H11UK*LNPURK(-1)+U*LNYRUK+H13UK*LNYRUK(-1)+H14UK*LNPURK+H15UK*LNPURK(-1)
43: CTOYUK = GUUK+G2UK*LNRPOIL+G6UK*(XTOYUK-ITOYUK)+G7UK*LNYRUK+G8UK*DEL(1 : LNYRUK)+G12UK*DEL(1 : RUK(-2))+G22UK*DEL(1 : KUS(-2))+G32UK*DEL(1 : GREUKXII(-2))
44: LNYRCAP = (1-2PCA)*XPCA+2PCA*LNYRCAP+(1-2PCA)*LNYRCAP(-1)
45: LNC1MCA == LNFINCA-LNMCA
46: LNMCAU == LNMNCA-LNMNCAEX
47: XTOYCAU == XTOYCA-XTOYCAEX
48: XTOYCAEX == XTOYCA(-1)-U.20227*(XTOYCA(-1)-XTOYCA(-2))+U.00075-U.30646*XTOYCAU(-8)
49: LNMNCAEX == 2*LNMNCA(-1)-LNMNCA(-2)-U.64605*(DEL(1 : LNMNCA(-1))-DEL(1 : LNMNCA(-2))-
-U.65993*(DEL(1 : LNMNCA(-2))-DEL(1 : LNMNCA(-3)))+U.0004-U.46266*LNMCAU(-3)-U.56977*LNMCAU(-4)
50: BTOYCA == XTOYCA-I TOYCA-CTOYCA
51: LNYRCAP == LNYRCAP-LNYRCAP
52: LNYRCA == (DVUS*LNYRUS+DVVA*LNYRUK+DVFK*LNYRUK+DVGE*LNYRCA+DVIT*LNYRCA+DVJA*LNYRCA+
DVNE*LNYRCA)*1/(1-DVCA)-7.26361
53: LNPCA == (DVUS*(LNPUS-LNEUS)+DVVK*(LNPCA-LNEUK)+DVFK*(LNPFK-LNEFK)+DVGE*(LNPGF-LNEGE)
)+DVIT*(LNPII-LNEII)+DVJA*(LNPAJ-LNEJA)+DVNE*(LNPNL-LNENL))*1/(1-DVCA)+1.2e117
54: Z1CALL == GRPX1CALL(-1)-SGRPX1C1(-1)
55: SGRPX1C1 == 4*(K0CA+K2CA*LNMNCA(-1)+K3CA*LNMNCA(-2)+K5CA*KCA+K6CA*KCA(-1)+KYCA*LNPICA(-1)+K10CA*LNPICA(-2)+K13CA*LNMCAU(-3))
56: GRPX1CALL == SGRPX1C1+K14CA*Z1CALL+K15CA*Z1CALL(-1)
57: ERCA1L == 4*DEL(1 : LNECA)-GRECA1II(-1)
58: GRECA1II == 4*(LUCA+L1CA*BTOYCA+L4CA*DEL(1 : LNECA))+L5CA*ERCA1L
59: LNPCA = B1CA+LNMNCA+B2CA*LNYRCAP+E3CA*LNYRCA+E4CA*KCA+B5CA*(LNMNCA(-1)-LNPCA(-1))+B6CA*LNMCAU+B7CA*LNMCAU(-1)+B8CA*LNMCAU(-2)+B9CA*LNMCAU(-3)
60: LNYRCA = A1CA+A2CA*LNYRCAP(-1)+(1-A2CA)*LNYRCA(-1)+A3CA*LNMCAU+A4CA*LNMCAU(-1)+A5CA*LNMCAU(-2)+A6CA*LNMCAU(-3)+A8CA*LNGCAU(-1)+A11CA*XTOYCAU+A14CA*XTOYCAU(-3)

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61: DEL(1 : LNMNCA) = E1CA+E2CA*T+E3CA*LNGCAU+L4CA*(LNGCAU(-1)+LNGCAU(-2))+E10CA*LNYRICA(-1)+E14CA*BTOYCA+E15CA*U*BTOYCA+E16CA*(BTOYCA(-1)+BTOYCA(-2))+E17CA*(U*(BTOYCA(-1)+BTOYCA(-2)))+E19CA*(U*(LTOYCA(-3)+LTOYCA(-4)))

62: RCA = DUCA+DICA*GRPX1CA+D14CA*RCA(-1)+D15CA*T+D4CA*LNMCAU(-2)+D5CA*LNMCAU(-3)+D6CA*LNGCAU+D8CA*LNGCAU(-2)+D9CA*LNGCAU(-3)

63: LNPIMCA = LNPIMCA(-1)+FUCA+F4UCA*DLL(1 : ITOYCA)+FSUCA*DEL(1 : LNPIRCA)

64: ITOYCA = IUCA+I1CA*I1TOYCA(-1)+I2CA*LNYRICA+I4CA*LNYRICA(-1)+I5CA*LNUFRCA

65: XTOYCA = BUCA+(b3CA+b4CA*U)*LNECA(-1)+H5CA*LNPURCA+H7CA*T+H8CA*XTOYCA(-1)+H9CA*XTOYCA(-2)+U*LNPURCA+H11CA*LNPURCA(-1)+H12CA*LNYRICA+H13CA*LNYRICA(-1)+U*LNPURCA+H15CA*LNPURCA(-1)

66: CTOYCA = GUCA+G6CA*(XTOYCA-I1TOYCA)+G8CA*DEL(1 : LNYRICA)+GYCA*DEL(1 : LNYRICA)+GLUCA*DEL(1 : RCA)+G2UCA*DEL(1 : RUS)+G3UCA*DEL(1 : GRECA11)

67: LNYRFPR = (1-2PFPR)*XPFR+ZPFPR*LNYRFPR+(1-2PFPR)*LNYRFPR(-1)

68: LNGIMFR == LNPIMFR-LNPIRCA

69: LNMFREX == LNMMFR-LNMMFREX

70: LNMMFREX == LNMMFR(-1)+0.54204*(LNMMFR(-1)-LNMMFR(-2))+0.01294+0.45793*LNMFREX(-6)

71: XTOYFRU == XTOYFR-XTOYFREX

72: XTOYPREX == XTOYFR(-1)-0.23545*(XTOYFR(-1)-XTOYFR(-2))+0.26219*XTOYFRU(-2)-0.36552*XTOYFRU(-4)+0.00131

73: BTOYFR == XTOYFR-ITOYFR-CTOYFR

74: LNYRFRK == LNYRFR-LNYRFRP

75: LNYRFRK == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+DVGE*LNYRGE+DVIT*LNYRIT+DVJA*LNYRJA+DVNE*LNYRNE)*1/(1-DVFR)-7.18014

76: LNPFRK == (DVUS*(LNPLS-LNEUS)+DVUK*(LNPFK-LNEUK)+DVCA*(LNPFCA-LNECA)+DVGE*(LNPFGE-LNEGE)+DVIT*(LNPFIT-LNEIT)+DVJA*(LNPFJA-LNEJA)+DVNE*(LNPFNL-LNLNE))*1/(1-DVFR)+1.16162

77: S2FRI == GRPX1FRI-SGRPX1F1

78: SGRPX1F1 == 4*(K0FR+K2FR*DEL(1 : LNMMFR(-1))+K6FR*KFR(-1)+K8FR*DEL(1 : LNFRK(-1))+K11FR*LNMFRU(-1))

79: GRPX1FRI == SGRPX1F1+K14FR*Z2FRI(-1)+K15FR*Z2FRI(-2)

80: ERFRIL == 4*DEL(1 : LNFRK)-GRERFRX11(-1)

81: GREFRX11 = 4*(LUFR+L1FR*BTOYFR+L4FR*DEL(1 : LNFRK)+L5FR*DNYR63(-1))+L6FR*ERFRIL+L7FR*ERFRIL(-1)

82: LNPFK = B1FR+LNMMFR+K2FR*LNYRFRP+U*LNYRFRK+B4FR*KFR+B10FR*(RUS+GREFRX11)+B5FR*(LNMMFR(-1)-LNPFK(-1))+B6FR*LNMFRU+B7FR*LNMFRU(-1)+U*LNMFRU(-2)+U*LNMFRU(-3)

83: LNYRFR = A1FR+A2FR*LNYRFRP(-1)+(1-A2FR)*LNYRFR(-1)+A3FR*LNMFRU+A7FR*LNGFRU+A8FR*LNGFRU(-2)+A11FR*XTOYFRU

84: DEL(1 : UNFR) = C1FR+C2UFR*DEL(1 : LNYRFR)+C21FR*DEL(1 : LNYRFR(-1))+C22FR*DEL(1 : LNYRFR(-2))+C23FR*DEL(1 : LNYRFR(-3))+C25FR*DEL(1 : LNYRFR(-5))+C27FR*DEL(1 : LNYRFR(-7))

85: DEL(1 : LNMMFR) = E1FR+E2FR*T+E4FR*(LNGFRU(-1)+LNGFRU(-2))+E6FR*(LNPFK(-1)-LNPFK(-3))+E8FR*(LNPFK(-3)-LNPFK(-5))+E9FR*(U*(LNPFK(-3)-LNPFK(-5)))+E11FR*UNFR(-2)+E12FR*UNFR(-3)+E13FR*UNFR(-4)+E14FR*BTOYFR+E16FR*(LTOYFR(-1)+E10YFR(-2))+E18FR*(BTOYFR(-3)+BTOYFR(-4))

86: KFR = DUFR+DIFR*GRPX1FRI+D14FR*KFR(-1)+D15FR*T+D2FR*LNMFRU+D3FR*LNMFRU(-1)+D6FR*LNGFRU+D12FR*XTOYFRU(-2)

87: LNPIMFR = LNPIMFR(-1)+FUFR+F4UFR*DEL(1 : ITOYFR)+FSUFR*DEL(1 : LNPIRFR)+F6UFR*DEL(1 : LNFRK)

88: ITOYFR = IUFK+I1FK*ITOYFR(-1)+I2FK*LNYRFRP+I3FK*LNYRFR+I4FK*LNYRFR(-1)+I5FK*LNUFRK

+U*LNC1MFR(-1)+I7FK*LNC1MFR(-2)+U*LNC1MFR(-3)

89: XTOYFR = BUFR+H1FR*LNEFR+H3FR*LNEFR(-1)+H5FR*LNPURCA+H7FK*T+H8FR*XTOYFR(-1)+H9FR*XTOYFR(-2)+H11FR*LNPURCA(-1)+H12FR*LNYRFR+H15FR*LNPURCA(-1)

90: CTOYFR = GUFR+G3FR*KFR+G4FR*GREFR11+G5FR*RUS+G6FR*(XTOYFR-ITOYFR)+G8FR*DEL(1 : LNYRFR)+G9FR*DEL(1 : LNYRFR)

91: LNYNGEP = (1-2PGE)*XPGE+ZPGE*LNYNGE+(1-2PGE)*LNYNGEP(-1)

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92: LNMGEU == LNMMGE-LNMNGEA
93: LNMMGLA == LNMMGE(-1)+U.02266+U.1074*LNNGLU(-1)+U.27425*LNHGLU(-2)+U.35616*LNMGLU(-3)
94: XTOYGLL == XTOYGE-XTOYGLA
95: BTOYGE == XTOYGE-I TOYGE-CTOYGL
96: XTOYGEEX == XTOYGE(-1)-U.42012*XTOYGLU(-4)+U.00141
97: LNYRTGE == LNYRGE-LNYRGER
98: LNYRGE == (DVUS*LNYRUS+DVUK*LNYRUA+DVCA*LNYRCA+DVFK*LNYRER+DVIT*LNYRIT+DVJA*LNYRJA+
DVNL*LNYRNE)*1/(1-DVGE)-7.20584
99: LNFGE == (DVUS*(LNFUS-LNEUS)+DVUK*(LNFUK-LNEUA)+DVCA*(LNFCA-LNECA)+DVFK*(LNFER-LNEFR
)+DVIT*(LNFIT-LNEIT)+DVJA*(LNFJA-LNEJA)+DVNE*(LNFNL-LNENL))*1/(1-DVGL)+1.17474
100: ZIGEIL == 4*DEL(1 : LNFGE)-GRPXIGE1
101: GRPXIGE1 == 4*(K0GE+K1GE*(LNMMGEEX-LNMNGE(-1))+K4GE*DEL(1 : LNYRGE(-1))+K5GE*KGE(-1)+K6GE*(LNFGE(-1)-LNFGE(-2)))+U.0475*ZIGEIL-U.4230*ZIGEIL(-1)
102: GREGEX21 == 4*(LGEG+LGEG*BTOYGE+LGEG*DEL(1 : LNEGL))
103: LNFGE = LGEG+LNMMGE+B2GE*LNYRGE+U*LNYRGE+LGEG*KGE+U*(KUS+GRGEEXZ1)+B5GE*(LNMMGE(-1)
-LNFGE(-1))+B6GE*LNMGEU+B7GE*LNMGEU(-1)+B8GE*LNMGEU(-2)+B9GE*LNMGEU(-3)
104: LNYRGE = A1GE+A2GE*LNYRGER(-1)+(1-A2GE)*LNYRGE(-1)+A3GE*LNMGEU+U*LNMGEU(-1)+U*LNMGEU(-2)+U*LNMGEU(-3)+A7GE*LNGGEU+A8GE*LNGGLU(-1)+U*LNGGLU(-2)+U*LNGGEU(-3)+A11GE*A10YGEU+A12GE*X10YGEU(-1)+A13GE*X10YGEU(-2)+A14GE*X10YGEU(-3)
105: DEL(1 : LNMMGE) = E1GE+U*E1E3GE*LNGGEU+E7GE*(U*(LNFGE(-1)-LNFGE(-3)))+E8GE*(LNFGE(-3)
-LNFGE(-5))+E9GE*(U*(LNFGE(-3)-LNFGE(-5)))+U*LNYRGE(-1)+U*LNYRGE(-2)+U*LNYRGE(-3)+U*LNYRGE(-4)+E14GE*BTOYGE+U*U*L7GEG+E18GE*(L7GEG(-3)+L10YGE(-4))
106: RGE = LGEG+LGEG*GRPXIGE1+L14GE*KGL(-1)+U*GRPXIGE1(-1)+U*1+U*LNMGEU+U*LNMGEU(-1)+U*LNMGEU(-2)+U*LNMGEU(-3)+U*LNGGEU+U*LNGGEU(-1)+U*LNGGEU(-2)+U*LNGGEU(-3)+U*X10YGEU(-1)+U*X10YGEU(-2)+U*X10YGEU(-3)
107: IT0YGE = IUGE+I1GE*I TOYGE(-1)+I2GE*LNYRGE+I3GE*LNYRGE+U*LNYRGE(-1)
108: XTOYGE = HUGE+H1GE*LNEGE+U*LNEGL(-1)+H5GE*LNRFOIL+U*LNYRGE+U*1+H8GE*XTOYGE(-1)+U*XTOYGE(-2)+H11GE*LNPXGE+U*LNPXGE(-1)+H12GE*LNYRGE+U*LNYRGE(-1)+U*LNPXGE+H15GE*LNPXGE(-1)
109: CTOYGE = GUGE+U*1+U*LNRFOIL+U*RGE+U*GRGEEXZ1+U*KUS+LGEG*(XTOYGE-I TOYGE)+U*LNYRGE+
LGEG*DEL(1 : LNYRGE)+LGEG*DEL(1 : LNYRGE)+LGEG*LLL(1 : RGE)+U*DEL(1 : RGE(-1))+U*
DEL(1 : RGE(-2))+LGEG*LLL(1 : KUS)+U*DEL(1 : KUS(-1))+U*DEL(1 : KUS(-2))+LG3GE*LLL(1 : GRGEEXZ1)+U*LLL(1 : GRGEEXZ1(-1))+U*DEL(1 : GRGEEXZ1(-2))
110: LNYRITP = (1-ZPIT)*XPIT+ZPIT*LNYRIT+(1-ZPIT)*LNYRITP(-1)
111: LNCIMIT == LNPIIMIT-LNPIT
112: LNMITU == LNMMIT-LNMNITEX
113: LNMMNITEX == LNMMIT(-1)+U.15625*(LNMMIT(-1)-LNMMIT(-2))+U.02829+U.35996*LNM17U(-2)+U.10908*LNM17U(-3)
114: X10YITU == XTOYIT-XTOYITER
115: XTOYITER == XTOYIT(-1)-U.15095*(XTOYIT(-1)-X10YIT(-2))+U.19592*(XTOYIT(-2)-X10YIT(-3))
    -U.14307*X10YITU(-8)+U.29614*X10YITU(-11)+U.00221
116: BTOYIT == XTOYIT-I TOYIT-CTOYIT
117: LNYRITIT == LNYRIT-LNYRITP
118: LNYRKIT == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+DVFK*LNYRER+DVGE*LNYRGE+DVJA*LNYRJA+
DVNE*LNYRNE)*1/(1-DVIT)-6.93965
119: LNFKIT == (DVUS*(LNFUS-LNEUS)+DVUK*(LNFUK-LNEUA)+DVCA*(LNFCA-LNECA)+DVFK*(LNFER-LNEFR
)+DVGE*(LNFGE-LNEGE)+DVJA*(LNFJA-LNEJA)+DVNE*(LNFNL-LNENL))*1/(1-DVIT)+U.920316
120: Z11T1 == GRPX11T1-SGRPX111
121: SGRPX111 == 4*(K0IT+K2IT*DEL(1 : LNMMIT(-1))+K4IT*DEL(1 : LNYRIT(-1))+K9IT*DEL(1 :
LNYRIT(-1))+K11IT*LNM17U(-1)+K12IT*LNM17U(-2)+K13IT*LNM17U(-3))
122: GRPX11T1 == SGRPX111+K14IT*Z11T1(-1)+K15IT*Z11T1(-2)
123: BRIT1 == 4*DEL(1 : LNEIT)-GREITX11(-1)

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124: GMEITX11 == 4*(L01T+L31T*PEGDIFIT+L41T*DLL(1 : LNE11))+L51T*ER111L
125: LNPIT = B11T+LNMNIT+B21T*LNYK1T+U*LNYK1T+B41T*K1T+L51T*(LNMNIT(-1)-LNPIT(-1))+B61T*
LNMITU+B71T*LNMITU(-1)+B81T*LNMITU(-2)+B91T*LNMITU(-3)
126: LNYK1T = A11T+A21T*LNYK1T(-1)+(1-A21T)*LNYK1T(-1)+A51T*LNMITU(-2)+A101T*LNG1TU(-3)+*
A11T*XTOY1TU+A131T*XTOY1TU(-2)
127: DEL(1 : LNMNIT) = E11T+E21T*T+B41T*(LNG1TU(-1)+LNG1TU(-2))+E51T*(LNG1TU(-3)+LNG1TU(-4))
+E61T*(LNPIT(-1)-LNPIT(-3))+E131T*LNYK1T(-4)+E141T*B71T+L151T*U*BTOY1T+E161T*(BTOY1T(-1)+BTOY1T(-2))
128: K1T = D01T+D11T*GRPX111+D141T*K1T(-1)+D41T*LNMITU(-2)+K61T*LNG1TU+D71T*LNG1TU(-1)+*
D101T*XTOY1TU+D111T*XTOY1TU(-1)
129: LNPIM1T = LNPIM1T(-1)+F01T+F201T*DEL(1 : LNPF01L)+F501T*DLL(1 : LNPF1T)
130: ITOY1T = I01T+I11T*ITOY1T(-1)+I21T*LNYK1T+I31T*LNYK1T+U*LNYK1T(-1)+U*LNG1M1T+I61T*
LNQ1M1T(-1)+I71T*LNG1M1T(-2)+U*LNG1M1T(-3)
131: XTOY1T = H01T+H31T*LNE1T(-1)+H51T*LNE01L+H61T*LNYK1T+B71T*T+B81T*A101T(-1)+H91T*
ATO1T(-2)+H11T*LNP1T(-1)+H131T*LNYK1T(-1)+H151T*LNP1T(-1)
132: CTOY1T = G01T+G31T*K1T+G41T*GREITX11+G51T*K05+G61T*(XTOY1T-ITOY1T)
133: LNYK1JA = (1-2FJA)*XPJA+ZPJA*LNYK1JA+(1-2FJA)*LNYK1JA(-1)
134: LNQ1M1JA == LNP1M1JA-LNP1JA
135: LNMJAU == LNMNJA-LNMNJAEX
136: LNMNJAEX == LNMNJA(-1)+0.44614*(LNMNJA(-1)-LNMNJA(-2))+0.17689*(LNMNJA(-2)-LNMNJA(-3))
+0.01474-0.37841*LNMJAU(-4)
137: XTOY1JA == XTOYJA-XTOYJAEX
138: XTOYJAEX == 2*XTOYJA(-1)-XTOYJA(-2)-1.1134*(DEL(1 : XTOYJA(-1))-DEL(1 : XTOYJA(-2)))-*
0.38594*(DEL(1 : XTOYJA(-2))-DEL(1 : XTOYJA(-3)))-0.6031u*XTOY1JA(-4)+0.36554*XTOY1JA(-9)+5.0000000E-05
139: BTOYJA == XTOYJA-ITOYJA-CTOYJA
140: LNYK1JA == LNYK1JA-LNYK1JA
141: LNYK1JA == (DVUS*LNYKUS+DVUK*LNYKUK+DVCA*LNYKCA+DVFR*LNYKFR+DVGE*LNYKGL+DVLT*LNYKIT+*
DVNE*LNYKNE)*1/(1-DVJA)-6.64583
142: LNPF1JA == (DVUS*(LNPUS-LNEUS)+DVUK*(LNPUK-LNEUK)+DVCA*(LNP1CA-LNECA)+DVFR*(LNP1FR-LNEFR)
+DVGE*(LNP1GE-LNEGE)+DVLT*(LNP1LT-LNE1T)+DVNE*(LNP1NL-LNEEN))*1/(1-DVJA)+0.617771
143: Z1JA2 == GRPX1JA2-SGRPX1JA2
144: SGRPX1JA2 == 4*(K01JA+K21JA*DEL(1 : LNMNJA(-1))+K51JA*K1JA+K61JA*K1JA(-1)+K71JA*(K05+GREJAX21)
+K91JA*DEL(1 : LNP1JA(-1)))
145: GRPX1JA2 == SGRPX1JA2+K14JA*Z1JA2(-1)+K15JA*Z1JA2(-2)
146: ERJA2L == 4*DEL(1 : LNEJA)-GREJAX21(-1)
147: GREJAX21 == 4*(L01JA+L11JA*BTOYJA+L31JA*PEGDIFJA+L41JA*DEL(1 : LNEJA))+L51JA*ERJA2L+L61JA*-
ERJA2L(-1)
148: LNP1JA = B11JA+LNMNJA+B21JA*LNYK1JA+B31JA*LNYK1JA+B41JA*K1JA+B101JA*(K05+GREJAX21)+B51JA*(LNMNJA(-1)-LNP1JA(-1))+B61JA*LNMJAU+B71JA*LNMJAU(-1)+B81JA*LNMJAU(-2)+B91JA*LNMJAU(-3)
149: LNYK1JA = A11JA+A21JA*LNYK1JA(-1)+(1-A21JA)*LNYK1JA(-1)+A51JA*LNMJAU(-2)+A101JA*LNG1JA(-3)+*
A11JA*XTOY1JA+A131JA*XTOY1JA(-2)+A141JA*XTOY1JA(-3)
150: DEL(1 : LNMNJA) = E11JA+E61JA*(LNP1JA(-1)-LNP1JA(-3))+E71JA*(U*(LNP1JA(-1)-LNP1JA(-3)))+E81JA*(LNP1JA(-3)-LNP1JA(-5))+E121JA*LNYK1JA(-3)+E131JA*LNYK1JA(-4)+E141JA*B71JA+E151JA*(B101JA(-1)+BTOY1JA(-2))+E171JA*(U*(B101JA(-1)+B71JA(-2)))+E181JA*(BTOY1JA(-3)+BTOY1JA(-4))+E191JA*(U*(BTOY1JA(-3)+B71JA(-4)))
151: K1JA = D01JA+D11JA*GRPX1JA2+D14JA*K1JA(-1)+L16JA*GRPX1JA2(-1)+L15JA*I+D21JA*LNMJAU+D31JA*-
LNMJAU(-1)+D41JA*LNMJAU(-2)+D51JA*LNMJAU(-3)+U*LNG1JA+D71JA*LNG1JA(-1)
152: LNP1M1JA = LNP1M1JA(-1)+F01JA+F301JA*DEL(1 : LNYK1JA)+F401JA*DEL(1 : ITOY1JA)+F501JA*DEL(1 : LNPF1JA)+F601JA*DEL(1 : LNEJA)
153: ITOY1JA = I01JA+I11JA*ITOY1JA(-1)+I21JA*LNYK1JA+I31JA*LNYK1JA+U*LNYK1JA(-1)+U*LNG1M1JA+I61JA*-
LNQ1M1JA(-1)+U*LNG1M1JA(-2)+I61JA*LNG1M1JA(-3)
154: XTOY1JA = H01JA+B11JA*LNEJA+B51JA*LNE01L+B61JA*LNYK1JA+B71JA*I+B81JA*XTOY1JA(-1)+H91JA*XTOY1JA(-2)+B101JA*LNP1KA+B121JA*LNYK1JA+B131JA*LNYK1JA(-1)+H141JA*LNEJA

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155: CTOYJA = GUJA+G1JA*T+G3JA*AJA+G4JA*GKJ JA21+G5JA*KUS+GUJA*LLL(1 : LNYKWA)
156: LNYKNEP = (1-ZFNE)*AFNE+ZFNE*LNYKNE+(1-ZFNE)*LNYKNE(-1)
157: LNQIMNE == LNPIMNE-LNPNE
158: LNANEU == LNMNNE-LNMNNEEX
159: LNMNNEEX == LNMNNE(-1)+0.34717*(LNMNNE(-1)-LNMNNE(-2))+0.37492*(LNMNNE(-2)-LNMNNE(-3))
    )-0.43951*LNMNNEU(-4)+0.00681
160: XTOYNEU == XTOYNE-XTOYNEEX
161: XTOYNEEX == XTOYNE(-1)-0.31379*XTOYNEU(-1)-0.33862*XTOYNEU(-2)+0.00094
162: BTUYNE == XTOYNE-ITOYNE-CTOYNE
163: LNYKTNE == LNYKNE-LNYKNEP
164: LNYKNE == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+DVFR*LNYRFR+DVG*E*LNYRGE+DVIT*LNYRIT+
    DVJA*LNYWA)*1/(1-DVNE)-7.17908
165: LNYKNE == (DVUS*(LNpus-LNEus)+DVUK*(LNpuk-LNeuk)+DVCA*(LNPCA-LNECA)+DVFR*(LNPFK-LNFK)
    )+DVG*(LNPG-E-LNEG)+DVIT*(LNp17-LNl17)+DVJA*(LNfja-LNlwa))*1/(1-DVNE)+1.1630
166: ZLINE1 == 4*DEL(1 : LNPNE)-GRPXINE1(-1)
167: GRPXINE1 == 4*(KUNE+KINE*LNMNNEEX+KZNE*LNMNNE(-1)+KANE*DEL(1 : LNYKNE(-1))+K6NE*KNE(-1)
    )+K8NE*DEL(1 : LNFNE(-1))+K1NE*LNMNNEU(-1)+K14NE*ZLINE11+K15NE*ZLINE11(-1)
168: GRENE11 == 4*(LUNE+L3NE*FEGLIFNE+L4NL*DEL(1 : LNEEL)+L5NE*DMY011(-1))
169: LNfNE = BLINE+LNmnne+b2NE*LNYKNEP+b3NE*LNYKNE+e4NE*KNE+b1UNE*(KUS+GRENE11)+b5NE*(LNMNNE(-1)-LNFNE(-1))+b6NE*LNMNNEU+b7NL*LNMNNEU(-1)+b8NE*LNMNNEU(-2)+b9NE*LNMNNEU(-3)
170: LNYKNE = ALINE+A2NE*LNYKNEP(-1)+(1-A2NE)*LNYKNE(-1)+A3NE*LNMNNEU+A4NE*LNMNNEU(-1)+A5NE*LNMNNEU(-2)+A6NE*LNMNNEU(-3)+A7NE*LNGNEU+A8NE*LNGNEU(-1)+A9NE*LNGNEU(-2)+A1UNE*LNGNEU(-3)+A11NE*XTOYNEU+A12NE*XTOYNEU(-1)+A13NE*XTOYNEU(-2)+A14NE*XTOYNEU(-3)
171: DEL(1 : LNMNNE) = ELINE+E2NE*T+E3NE*LNNGNEU+E4NE*(LNGNEU(-1)+LNGNEU(-2))+E5NE*(LNGNEU(-3)+LNGNEU(-4))+E6NE*(LNPNL(-1)-LNPNL(-3))+E7NE*(U*(LNfNE(-1)-LNFNE(-3)))+E8NE*LNyKTNE(-2)+E12NE*LNYKTNE(-1)+E14NE*LTOYNE+E15NE*(BTUYNE(-1)+BTUYNL(-2))+E17NE*(U*(BTUYNE(-1)+BTUYNE(-2)))
172: KNE = DUNE+DINE*GRPXINE1+L14NE*KNE(-1)+L15NE*T+L3NE*LNMNNEU(-1)+L4NE*LNMNNEU(-2)+L1UNE*
    XTOYNEU+L1LINE*XTOYNEU(-1)+L13NE*XTOYNEU(-3)
173: LNPIMNE = LNPIMNE(-1)+FUNE+F1UNE*DEL(1 : LNPIMNE(-1))+F2UNE*DEL(1 : LNPFUIL)+F4UNE*
    DEL(1 : ITOYNE)+F5UNE*DEL(1 : LNPKNE)+F6UNE*DEL(1 : LNEEL)
174: ITOYNE = IUNE+I1NE*ITOYNE(-1)+I2NE*LNYKNEP+I3NE*LNYKTNE+I5NE*LNMIMNE
175: XTOYNE = BONE+HINE*LNEEL+H5NE*LNRPOIL+H6NE*LNYKTNE+H7NE*T+H8NE*XTOYNE(-1)+H1UNE*
    LNPRNE+H12NE*LNYKNE+H13NE*LNYKNE(-1)+H14NE*LNFNE
176: CTOYNE = GUNE+G1NE*T+G2NE*LNRPOIL+G3NE*KNE+G4NE*GRENE11+G5NE*KUS+G6NE*(XTOYNE-ITOYNE)
    )+G7NE*LNYKTNE

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COEFFICIENT AND PARAMETER VALUES

A1CA	0.010003	A1fk	0.012619	A1ga	0.010021
A1IT	0.011699	A1JA	0.020614	A1nt	0.009900
A1UK	0.005561	A1US	0.007684	A1uCA	-0.01349
A1UFk	0.016439	A1uge	0.013696	A1uIt	0.025164
A1UJA	-0.026697	A1UNE	0.035157	A1uuk	-0.023974
A1UUb	0.067441	A11CA	0.679057	A11fk	0.213191
A11gk	0.296236	A11It	-0.383459	A11JA	-1.91914
A11ne	0.097619	A11uk	0.189663	A11ub	0.717539
A12CA	0.164636	A12fk	-0.715374	A12ge	-0.23778
A12It	-0.044277	A12JA	0.349852	A12ne	-0.064666
A12UK	0.42602	A12ub	0.532314	A13CA	-0.028676
A13fk	0.015316	A13ge	-0.333226	A13It	-0.227114
A13JA	-1.15516	A13ne	0.104741	A13uk	-0.21267
A13us	-0.0415	A14CA	0.544767	A14fk	0.121494
A14ge	-0.514582	A14It	-0.465483	A14JA	-1.09256
A14ne	-0.113143	A14uk	0.006659	A14ub	-0.925131
A2CA	0.136071	A2fk	0.102126	A2ge	0.04147
A2It	0.024681	A2JA	-0.036396	A2ne	0.090174
A2uk	0.240665	A2us	0.088659	A3CA	0.244662
A3fk	-0.264116	A3ge	0.344667	A3It	0.093676
A3JA	0.142673	A3ne	0.241164	A3uk	-0.16449
A3us	0.967393	A4CA	0.177733	A4fk	0.066796
A4ge	0.069415	A4It	0.079064	A4JA	0.1083
A4ub	0.094424	A4uk	0.040359	A4ub	0.546935
A5CA	0.075535	A5fk	0.100111	A5ge	-0.01725

A517	0.266542	A5JA	0.2111515	A5NE	-0.03886
A5UK	-0.026207	A5US	-0.04704	A6CA	0.193415
A6FR	-0.055212	A6GL	0.04076	A6IT	-0.01757
A6JA	0.066371	A6NL	0.006819	A6UK	-0.126895
A6US	0.935403	A7CA	-0.004672	A7FK	0.072734
A7GE	-0.036326	A7II	-0.001346	A7JA	0.044266
A7NE	0.037422	A7UK	0.174624	A7US	-0.034466
A8CA	-0.149956	A8FR	0.007462	A8GE	0.030281
A8IT	0.000596	A8JA	-0.019563	A8NE	-0.031161
A8UK	0.027366	A8US	0.138711	A8CA	-0.02849
A9FR	0.049895	A9GL	-0.00762	A9IT	-0.001626
A9JA	0.044973	A9NE	0.016572	A9UK	0.118697
A9US	0.05507	B1CA	0.119397	B1FR	0.05476
B1GE	0.073547	B1IT	0.206264	B1JA	0.448139
B1NE	-0.005675	B1UK	-0.151938	B1US	0.083905
B10CA	-0.056102	B10FR	0.029941	B10GE	-0.008847
B10IT	-0.037786	B10JA	0.080375	B10NE	0.000617
B10UK	0.078828	B10US	-0.001131	B2CA	-0.218794
B2FR	-0.018392	B2GE	-0.063613	B2IT	-0.069682
B2JA	-0.201664	B2NE	-0.081835	B2UK	-0.046694
B2US	-0.022227	B3CA	-0.152691	B3FR	-0.018886
B3GE	-0.006227	B3IT	-0.042952	B3JA	-0.065941
B3NE	0.107645	B3UK	-0.276035	B3US	-0.09072
B4CA	0.244962	B4FK	0.462903	B4GE	0.023618
B4IT	0.160445	B4JA	0.95586	B4NE	-0.013744
B4UK	0.504004	B4US	0.346502	B5CA	-0.628784
B5FR	-0.996466	B5GL	-0.935252	B5IT	-0.947664
B5JA	-0.827685	B5NE	-0.890964	B5UK	-0.872932
B5US	-0.9906	B6CA	-1.07666	B6FR	-0.724769
B6GE	-1.07676	B6IT	-1.24523	B6JA	-0.988562
B6NE	-0.977966	B6UK	-0.689923	B6US	-0.725851
B7CA	-0.267171	B7FR	-0.237026	B7GE	-0.141736
B7IT	-0.191914	B7JA	-0.356622	B7NE	-0.451249
B7UK	0.037385	B7US	-0.393195	B8CA	-0.271711
B8FR	0.024827	B8GE	-0.311723	B8IT	-0.378815
B8JA	-0.312743	B8NE	-0.621455	B8UK	-0.151933
B8US	0.169832	B8CA	-0.635726	B9FR	0.04942
B9GE	-0.308631	B9IT	-0.151063	B9JA	-0.289714
B9NE	-0.309134	B9UK	-0.167466	B9US	0.016405
C1FR	0.001642	C1UK	0.002293	C1US	0.004693
C20FR	-0.033332	C20UK	-0.067536	C20US	-0.104491
C21FR	-0.036075	C21UK	-0.032481	C21US	-0.187741
C22FR	-0.024205	C22UK	-0.064932	C22US	-0.050647
C23FR	-0.011601	C23UK	-0.054661	C23US	-0.063531
C24FR	-0.003651	C24UK	-0.041134	C24US	0.059092
C25FR	-0.010717	C25UK	-0.01505	C25US	0.017716
C26FR	0.000474	C26UK	-0.005727	C26US	-0.027592
C27FR	0.0072	C27UK	0.000353	C27US	-0.061705
DVCA	0.046296	DVFR	0.077221	DVGE	0.107001
DVIT	0.048061	DVJA	0.107698	DVNE	0.018771
DVUK	0.063287	DVUS	0.531464	DUCA	0.002086
D0FR	0.003366	D0GE	0.003628	D0IT	-0.002471
D0JA	-0.000932	D0NE	0.003585	D0UK	0.003081
D0US	0.010089	D1CA	0.049893	D1FR	0.073674
D1GE	0.231726	D1IT	0.027008	D1JA	0.027117
D1NE	-0.043995	D1UK	0.009035	D1US	0.434367
D1UCA	-0.007863	D10FR	0.20013	D10GE	0.20221
D1UIT	0.239529	D10JA	0.007364	D10NE	0.137002
D10UK	0.192508	D10US	0.508074	D11CA	0.037268
D11FR	0.12238	D11GE	-0.24158	D11IT	0.161757
D11JA	-0.025161	D11NE	0.06167	D11UK	0.018407
D11US	0.23597	D12CA	-0.013955	D12FR	0.194568
D12GE	0.0877	D12IT	0.054745	D12JA	0.025661
D12NE	0.03381	D12UK	-0.003938	D12US	0.544253
D13CA	-0.032712	D13FR	0.07675	D13GE	-0.24942
D13IT	-0.009773	D13JA	0.002267	D13NE	0.046054
D13UK	0.213998	D13US	-0.213716	D14CA	0.961863
D14FR	0.763452	D14GE	0.76264	D14IT	1.02768
D14JA	0.983108	D14NE	0.799926	D14UK	0.825858
D14US	0.539202	D15CA	-3.498167E-05	D15FR	0.000154
D15GE	3.845550E-05	D15IT	1.960370E-05	D15JA	-2.144426E-05
D15NE	0.000151	D15UK	0.000183	D15US	-6.091796E-06
D16CA	0.005978	D16FR	0.0124	D16GE	-0.06953
D16IT	-0.019956	D16JA	0.030428	D16NE	0.04514
D16UK	-0.022298	D16US	-0.154852	D2CA	-0.078202
D2FR	-0.49829	D2GE	0.1307	D2IT	-0.020386
D2JA	-0.006893	D2NE	0.07838	D2UK	-0.299766
D2US	-0.230722	D3CA	0.015319	D3FR	-0.154023
D3GE	0.07571	D3IT	0.004611	D3JA	-0.021473
D3NE	-0.162029	D3UK	0.025404	D3US	0.163077
D4CA	0.092836	D4FK	-0.09139	D4GE	0.10942
D4IT	0.037063	D4JA	-0.032911	D4NE	0.06593
D4UK	0.036448	D4US	0.091665	D5CA	0.116664
D5FR	0.03674	D5GE	0.05852	D5IT	0.02739

D5JA	-0.016782	D5NE	0.00622	DSUK	0.077159
D5US	0.103347	D6CA	-0.073145	D6FR	-0.034926
D6GE	-0.02391	D6IT	-0.005287	D6JA	0.000489
D6NE	0.00239	D6LK	-0.050417	D6US	-0.020453
D7CA	-0.001992	D7FR	0.01672	D7GE	0.00277
D7IT	-0.004384	D7JA	0.001793	D7NL	0.00041
D7UK	0.022854	D7US	0.01894	D8CA	0.032561
D8FR	-0.01609	D8GE	-0.0128	D8IT	-0.000764
D8JA	0.000889	D8NE	0.00664	D8UK	0.014188
D8US	0.02294	D9CA	0.017438	D9FR	-0.00794
D9GE	0.01666	D9IT	-0.003281	D9JA	0.000607
D9NE	0.01609	D9UK	0.001453	D9US	0.015392
E1CA	0.007281	E1FR	0.03332	E1GE	0.013288
E1IT	0.019544	E1JA	0.054274	E1NE	0.010131
E1LK	-0.00433	E1OS	0.00329	E1UCA	-0.034390
E1UFK	1.58587	E1OGE	-0.036416	E1UIT	0.105504
E1UJA	0.005894	E1UNE	0.033836	E1UUK	1.23133
E1UUS	-0.116645	E1ICA	-0.054589	E1FK	-1.02545
E11GE	0.102443	E1IIT	-0.126347	E11JA	-0.022105
E11NE	0.004899	E1IUK	-0.550499	E11US	0.426361
E12CA	-0.077664	E12FR	4.39695	E12GE	-0.191149
E12IT	0.126007	E12JA	-0.158405	E12NE	0.019509
E12UK	5.57298	E12US	-0.468037	E13CA	-0.041273
E13FR	-3.24907	E13GE	0.084755	E13IT	-0.151066
E13JA	0.284267	E13NL	-0.028792	E13UK	-4.2394
E13US	-0.054576	E14CA	-0.396027	E14FR	0.10534
E14GE	1.628	E14IT	-3.88655	E14JA	1.95052
E14NE	0.403001	E14UK	-0.068485	E15CA	3.68752
E15FR	0.103117	E15GE	0.019635	E15IT	4.10458
E15JA	-0.574234	E15NE	0.700825	E15UK	0.596763
E16CA	0.670052	E16FR	0.108524	E16GE	0.09378
E16IT	1.57536	E16JA	1.83261	E16NE	0.292781
E16UK	0.282168	E17CA	-2.84711	E17FR	-0.132219
E17GE	0.332797	E17IT	-0.686828	E17JA	-2.53069
E17NE	-0.692653	E17UK	-0.521172	E18CA	0.286188
E18FR	0.761771	E18GE	0.625931	E18IT	-0.372264
E18JA	1.71901	E18NE	0.091526	E18UK	0.187571
E19CA	2.14929	E19FR	0.060456	E19GE	0.039871
E19IT	0.810022	E19JA	-1.78208	E19NE	-0.971241
E19UK	-0.204191	E2CA	0.000184	E2FR	-0.000192
E2GE	-8.064001E-05	E2IT	0.000454	E2JA	-1.888251E-05
E2NE	0.000421	E2UK	-6.443714E-07	E2US	0.000243
E2UUS	0.496625	E2IUS	-0.246602	E3CA	0.10149
E3FK	0.00301	E3GE	0.043045	E3IT	-0.014448
E3JA	-0.021866	E3NE	0.058633	E3UK	0.107434
E3US	0.004036	E4CA	0.136066	E4FR	0.011217
E4GE	-0.014921	E4IT	-0.03104	E4JA	0.031742
E4NE	-0.027174	E4UK	0.163098	E4US	0.001552
E5CA	-0.003532	E5FR	-0.017824	E5GE	-0.0225
E5IT	-0.023132	E5JA	0.026185	E5NE	-0.040335
E5UK	0.02989	E5US	0.033956	E6CA	-0.197234
E6FR	-0.057298	E6GE	0.097666	E6IT	-0.09435
E6JA	-0.564806	E6NE	-0.316001	E6UK	0.07705
E6US	-0.057597	E7CA	0.264871	E7FR	0.574765
E7GE	-0.763707	E7IT	0.037192	E7JA	0.415324
E7NE	0.206985	E7UK	0.024239	E8CA	-0.113296
E8FR	-0.0748	E8GE	-0.343714	E8IT	0.262491
E8JA	-0.226858	E8NE	0.05664	E8UK	0.156708
E8US	-0.286081	E9CA	-0.001604	E9FR	0.28364
E9GE	0.700672	E9IT	-0.129687	E9JA	0.014509
E9NE	0.062226	E9UK	-0.074746	F0CA	0.001455
F0FR	-0.00816	F0GE	-0.010675	F0IT	-0.009255
F0JA	-0.018463	F0NE	-0.004765	F0UK	-0.015403
F0US	0.000225	F10CA	-0.053768	F10FR	-0.099333
F10GE	0.242206	F10IT	0.072819	F10JA	0.124816
F10NE	0.223077	F10UK	-0.002007	F10US	0.616185
F20CA	-0.245403	F20FR	0.052207	F20GE	0.006946
F20IT	0.176537	F20JA	-0.07173	F20NE	0.09354
F20UK	-0.040341	F20US	0.067515	F30CA	0.279496
F30FR	-0.026652	F30GE	0.290149	F30IT	-0.14876
F30JA	0.804933	F30NE	-0.255302	F30UK	0.740935
F30US	0.15222	F40CA	0.784069	F40FR	1.76086
F40GE	-0.377934	F40IT	-0.221008	F40JA	3.64313
F40NE	0.138543	F40UK	0.189983	F40US	2.25319
F50CA	0.270787	F50FR	1.25097	F50GE	1.20028
F50IT	1.31648	F50JA	1.30657	F50NE	0.968503
F50UK	1.28695	F50US	0.153611	F60CA	0.02143
F60FR	0.612717	F60GE	0.468396	F60IT	-1.1264
F60JA	0.710113	F60NE	0.799582	F60UK	0.533112
GUCA	-0.003648	GUFR	-0.001236	GUGE	-0.012056
GOIT	-0.003179	GOJA	0.045769	GUNE	-0.008552
GOUK	0.013468	GUUS	0.004428	GICA	-0.000105
G1FR	-9.407155E-05	G1GE	-3.927120E-06	G1IT	0.000155
G1JA	-3.658464E-05	G1NE	2.173991E-05	G1UK	-0.000265

G10US	5.279754E-05	G10CA	-0.050435	G10FR	0.636369
G10GE	-0.002451	G10I	1.38277	G10JA	-0.610265
G10NE	0.696158	G10UK	0.757122	G10US	-0.299741
G11CA	-0.298437	G11F	0.258753	G11GE	-0.422543
G11IT	0.442983	G11JA	-1.14262	G11NE	-0.687287
G11UK	-0.828963	G11US	0.347438	G12CA	0.16578
G12FR	0.908516	G12GE	0.405291	G12IT	0.361741
G12JA	-0.346612	G12NE	0.363585	G12UK	-0.680074
G12US	-0.480483	G2CA	0.007542	G2FR	0.013437
G2GE	0.0044	G2IT	0.000184	G2JA	0.031405
G2NE	0.015183	G2UK	-0.046579	G2US	-0.001341
G20CA	0.259146	G20FR	-0.654758	G20GE	0.621408
G20IT	-0.172217	G20JA	-0.826017	G20NE	0.983567
G20UK	0.317069	G20US	0.007598	G21CA	0.213911
G21FR	-0.994672	G21GE	0.132577	G21IT	-0.352289
G21JA	-0.091766	G21NE	0.171835	G21UK	-0.576976
G21US	0.034483	G22CA	-0.194408	G22FR	0.386726
G22GE	0.546939	G22IT	-0.02103	G22JA	-0.232578
G22NE	0.979839	G22UK	0.525568	G22US	0.111434
G3CA	-0.209463	G3FR	-0.249651	G3GE	-0.3022
G3IT	-0.204769	G3JA	-0.583978	G3NE	-0.679193
G3UK	0.752483	G3US	-0.100705	G30CA	0.04415
G30FR	-0.002254	G30GE	0.052299	G30IT	-0.045144
G30JA	0.038284	G30NE	-0.086553	G30UK	-0.342353
G30US	-0.003303	G31CA	-0.048232	G31FR	0.000667
G31GE	0.046935	G31IT	0.037957	G31JA	0.033051
G31NE	-0.051527	G31UK	-0.076486	G31US	0.003961
G32CA	-0.06872	G32FR	-0.017283	G32GE	0.051619
G32IT	0.071145	G32JA	0.023627	G32NE	0.04683
G32UK	0.016799	G32US	-0.004193	G4CA	0.399296
G4FR	0.073793	G4GE	0.097097	G4IT	0.071244
G4JA	0.05497	G4NE	0.024806	G4UK	0.444298
G4US	-0.034747	G5CA	0.525327	G5FR	0.332204
G5GE	0.243101	G5IT	0.328725	G5JA	0.064557
G5NE	0.543858	G5UK	-0.927833	G5US	-0.209762
G6CA	0.854509	G6FR	0.184551	G6GE	0.679257
G6IT	0.4522	G6JA	-0.212536	G6NE	0.53443
G6UK	-1.08654	G6US	0.571938	G7CA	0.101733
G7FR	0.060923	G7GE	-0.065372	G7IT	-0.006446
G7JA	0.04405	G7NE	0.077908	G7UK	-0.696908
G7US	-0.053545	G8CA	-0.115046	G8FR	0.076835
G8GE	0.516343	G8IT	-0.125914	G8JA	-0.219103
G8NE	-0.045435	G8UK	0.51128	G8US	-0.106903
G9CA	0.037359	G9FR	-0.195855	G9GE	-0.940238
G9IT	-0.262394	G9JA	0.034766	G9NE	-0.454351
G9UK	0.080414	G9US	0.05499	HUCA	0.203896
H0FR	0.129624	H0GE	0.089664	H0IT	-0.878539
H0JA	-0.060943	H0NE	0.253769	H0UK	0.548739
H0US	0.077502	H1CA	-0.152912	H1FR	0.073406
H1GE	0.040487	H1IT	-0.018547	H1JA	0.016673
H1NE	0.12252	H1UK	0.051451	H1US	0.014957
H10CA	0.025102	H10FR	0.010249	H10GE	0.247567
H10IT	-0.071293	H10JA	0.018682	H10NE	0.586296
H10UK	0.091918	H10US	0.00826	H11CA	-0.049448
H11FR	0.239274	H11GE	0.044574	H11IT	0.081144
H11JA	-0.048667	H11NE	-0.41788	H11UK	0.306618
H11US	0.01138	H12CA	0.113463	H12FR	0.248513
H12GE	0.1238	H12IT	0.055552	H12JA	-0.119308
H12NE	0.500342	H12UK	-0.010101	H13CA	0.08955
H13FR	0.054154	H13GE	-0.021665	H13IT	0.201372
H13JA	0.149767	H13NE	-0.165191	H13UK	0.113126
H14CA	0.085483	H14FR	-0.021497	H14GE	-0.066495
H14IT	0.055937	H14JA	-0.010149	H14NE	-0.499385
H14UK	-0.103932	H15CA	0.035674	H15FR	-0.077889
H15GE	-0.326702	H15IT	-0.109401	H15JA	-0.03302
H15NE	0.186242	H15UK	-0.124118	H2CA	0.085196
H2FR	-0.000659	H2GE	-0.001326	H2IT	0.001095
H2JA	0.000277	H2NE	-0.003371	H2UK	-0.006663
H2US	0.01107	H3CA	-0.038753	H3FR	0.049731
H3GE	0.009901	H3IT	0.164379	H3JA	-0.012907
H3NE	-0.065659	H3UK	0.148371	H3US	-0.00067
H4CA	0.053718	H4FR	-0.003771	H4GE	0.003139
H4IT	-0.000501	H4JA	-0.000414	H4NE	0.000248
H4UK	0.003317	H4US	0.610356	H5CA	0.012595
H5FR	0.01573	H5GE	0.028759	H5IT	0.018204
H5JA	-0.000268	H5NE	0.032386	H5UK	0.014503
H5US	0.072265	H6CA	-0.068748	H6FR	0.011124
H6GE	0.043488	H6IT	-0.116616	H6JA	-0.030858
H6NE	0.154034	H6UK	-0.038433	H6US	0.010184
H7CA	-0.001767	H7FR	-0.00426	H7GE	-0.001028
H7IT	-0.001111	H7JA	-0.000251	H7NE	-0.002796
H7UK	-0.002765	H7US	-0.008498	H8CA	0.342569
H8FR	0.234953	H8GE	0.347365	H8IT	0.235021
H8JA	0.292216	H8NE	0.51165	H8UK	0.329246

H8US	0.067992	H9CA	0.272154	H9FR	0.250369
H9GE	0.113401	H9IT	0.229865	H9JA	0.123404
H9NE	0.081916	H9UK	0.102093	H9US	0.018369
I0CA	-0.372035	I0FR	-0.040159	I0GE	-0.113784
I0IT	-0.361626	I0JA	-0.023309	I0NE	-1.37866
I0UK	-0.334918	I0US	-0.104698	I1CA	0.202255
I1FR	0.795262	I1GE	0.545657	I1IT	0.772121
I1JA	0.720108	I1NE	0.326505	I1UK	0.346076
I1US	0.661462	I2CA	0.127849	I2FR	0.010317
I2GE	0.032126	I2IT	0.036875	I2JA	0.002864
I2NE	0.364942	I2UK	0.13774	I2US	0.018057
I3CA	-0.017921	I3FR	0.062886	I3GE	0.032967
I3IT	0.093963	I3JA	0.013094	I3NE	0.277274
I3UK	-0.08037	I3US	0.082842	I4CA	0.179301
I4FR	-0.059963	I4GE	0.014642	I4IT	-0.013925
I4JA	0.00033	I4NE	0.042767	I4UK	0.034769
I4US	-0.066497	I5CA	0.131179	I5FR	0.037033
I5GE	-0.007693	I5IT	-0.040057	I5JA	0.010134
I5NE	0.406705	I5UK	0.129456	I5US	0.036839
I6CA	-0.075556	I6FR	-0.018874	I6GE	0.033623
I6IT	0.117275	I6JA	0.053008	I6NE	-0.157412
I6UK	0.085876	I6US	0.052165	I7CA	-0.055634
I7FR	-0.041407	I7GE	0.053553	I7IT	-0.091501
I7JA	-8.886478E-05	I7NE	-0.074126	I7UK	-0.031961
I7US	-0.068607	I8CA	0.066109	I8FR	0.018122
I8GE	-0.028847	I8IT	0.016146	I8JA	-0.041665
I8NE	-0.04174	I8UK	0.014522	I8US	0.004386
K0CA	-0.03672	K0FK	-0.007933	K0GE	-0.004168
K0IT	0.030647	K0JA	0.066137	K0NE	-0.019439
K0UK	-0.085985	K0US	-0.118647	K1CA	-1.00169
K1FR	0.09518	K1GE	0.084483	K1IT	-70.1123
K1JA	-0.28134	K1NE	0.074312	K1UK	-0.211225
K1US	-1.704	K10CA	-0.50794	K10FR	-0.10998
K10GE	-0.055558	K10IT	0.1779	K10JA	-0.05976
K10NE	0.11578	K10UK	-0.364917	K10US	-0.266557
K11CA	0.43356	K11FR	-0.205692	K11GE	8.54003
K11IT	0.510238	K11JA	0.10676	K11NE	-0.120811
K11UK	0.712146	K11US	-0.011724	K12CA	-0.16197
K12FR	-0.04162	K12GE	21.9658	K12IT	0.196408
K12JA	0.15317	K12NE	-7.00023	K12UK	-0.40683
K12US	0.222	K13CA	-0.19053	K13FR	-0.07258
K13GE	28.5363	K13IT	0.182301	K13JA	0.0343
K13NE	-5.78759	K13UK	0.28402	K13US	0.02
K14CA	-0.2753	K14FR	0.6105	K14GE	0.1874
K14IT	0.1566	K14JA	0.2194	K14NE	-0.2528
K14UK	-0.2117	K14US	0.2778	K15CA	-0.6962
K15FR	-0.1698	K15GE	0.5547	K15IT	0.6312
K15JA	0.4259	K15NE	0.5438	K15UK	0.5135
K15US	-0.1317	K2CA	-0.04238	K2FR	0.879907
K2GE	79.9045	K2IT	-0.372853	K2JA	0.14682
K2NE	-0.064781	K2UK	-0.305548	K2US	0.087633
K3CA	0.06676	K3FR	-0.34383	K3GE	-0.02164
K3IT	-10.1092	K3JA	-0.18028	K3NE	-5.04602
K3UK	0.563988	K3US	-0.065193	K4CA	0.06475
K4FR	0.0028	K4GE	0.138669	K4IT	-0.185426
K4JA	-0.02574	K4NE	0.243743	K4UK	0.129087
K4US	-0.055842	K5CA	0.34558	K5FK	0.05509
K5GE	-0.01241	K5IT	0.07162	K5JA	1.33237
K5NE	-0.04987	K5UK	0.02992	K5US	0.140337
K6CA	-0.51519	K6FR	0.216151	K6GE	0.089455
K6IT	-0.004496	K6JA	-2.03841	K6NE	0.108302
K6UK	0.14599	K6US	-0.038	K7CA	0.01197
K7FR	0.00344	K7GE	0.01888	K7IT	-0.03065
K7JA	0.056447	K7NE	-0.03923	K7UK	0.041818
K7US	0.008	K8CA	-0.0327	K8FK	0.01106
K8GE	0.01352	K8IT	-0.01914	K8JA	0.00436
K8NE	-0.02741	K8UK	-0.028305	K8US	-0.009
K9CA	0.49477	K9FR	0.11732	K9GE	0.579013
K9IT	-0.15663	K9JA	-0.212914	K9NE	-0.392292
K9UK	0.350697	K9US	0.246549	KUCA	-0.000111
L0FR	0.001753	L0GE	0.001334	L0IT	-0.000106
L0JA	-0.000313	L0NE	-0.001407	L0UK	0.001221
L1CA	-0.044797	L1FR	-0.736738	L1GE	-0.672213
L1IT	-0.2118	L1JA	-0.579833	L1NE	-0.1362
L1UK	-0.5398	L2CA	33.9022	L2FR	131.55
L2GE	-113.957	L2IT	17.655	L2JA	-405.337
L2NE	10.9493	L2UK	29.8764	L3CA	-0.0089
L3FR	0.6546	L3GE	-0.2109	L3IT	-0.032609
L3JA	0.076104	L3NE	-0.192914	L3UK	0.1369
L4CA	0.510603	L4FR	0.916987	L4GE	0.238757
L4IT	0.970475	L4JA	0.1423b2	L4NE	0.624358
L4UK	0.564549	L5CA	-1.	L5FK	-0.036492
L5GE	0.0106	L5IT	-1.	L5JA	-0.0779
L5NE	0.024793	L5UK	-0.023716	L6FR	-0.65

L6GE	-0.0086	L6JA	-0.3398	L7FR	-0.35
MUCA	-0.00314	M0FR	0.06315	M0GE	0.00864
M0IT	0.0232	M0JA	0.00323	M0NE	0.02739
M0UK	0.00597	M1CA	0.05183	M1FR	0.13361
M1GE	-0.95133	M1IT	-0.08897	M1JA	-0.03233
M1NE	0.11611	M1UK	0.80037	M2CA	-0.00683
M2FR	-0.06955	M2GE	0.05737	M2IT	-0.029
M2JA	-0.03956	M2NE	-0.07818	M2UK	-0.02808
M3CA	0.07509	M3FR	-1.13931	M3GE	-0.73465
M3IT	0.76727	M3JA	-0.87177	M3NE	-0.66181
M3UK	1.20971	M4CA	-0.30121	M4FR	1.42566
M4GE	2.98731	M4IT	0.1553	M4JA	3.92447
M4NE	-0.10364	M4UK	-2.03867	M5CA	0.18038
M5FR	-3.15593	M5GE	-0.13434	M5IT	-0.35833
M5JA	-0.02198	M5NE	-1.97462	M5UK	-0.98978
M6CA	0.31538	M6FR	-0.39385	M6GE	0.18685
M6IT	0.15115	M6JA	0.20401	M6NL	-0.35813
M6UK	-0.20116	P	4.	XPCA	0.012
XPFR	0.01379	XPGE	0.01143	XPIT	0.01218
XPJA	0.0228	XPNE	0.01161	XPUK	0.0067
XFUS	0.00866	ZPCA	0.025	ZPFR	0.025
ZPGE	0.025	ZPIT	0.025	ZPJA	0.025
ZPNE	0.025	ZPUK	0.025	ZPUS	0.025

TABLE 3

The Floating Period Model: Mark IV-PLT

SYMBOL DECLARATIONS

ENDOGENOUS:

BTOYCA BTOYPR BTOYGE BTOYIT BTOYJA BTOYNE BTOYUK BTOYUS CTOYCA CTOYPR CTOYGE CTOYIT
 CTOYJA CTOYNE CTOYUK CTOYUS GRECAXII GREFRXII GREGEXII GREITXII GREJAXII GRENEXII
 GREUXII GRPXICAI GRPXIFKI GRPXIGEI GRPXILTI GRPXIJA2 GRPAINEI GRPAIUKI GRPAIUSI ITOYCA
 ITOYFK ITOYGE ITOYIT ITOYJA ITOYNE ITOYUK ITOYUS LNECA LNEFK LNEGE LNEIT LNEJA LNLNE
 LNEUK LNMCAU LNMFRU LNMGU LNMHU LNMJAU LNMNCU LNMNCX LNMNU LNMNUK LNMNUKEX LNMNU
 LNMNGE LNMNGEEX LNMNIT LNMNTEX LNMNJA LNMNJAEX LNMNNE LNMNNELX LNMNUK LNMNUKEX LNMNU
 LNMNUSEX LNMNUKU LNMNUSU LNPICA LNPFR LNPGE LNPIMCA LNPIMFA LNPINGE LNPIMIT LNPIMJA
 LNPIMK LNPIMUK LNPIMUS LNPIT LNPJA LNPNE LNPRA LNPRLK LNPRLT LNPRLA LNPRLN LNPRLM
 LNPRLK LNPRLS LNPUS LNPUS LNCIMCA LNCIMF LNCIMG LNCIMH LNCIMI LNCIMJ LNCIML LNCIMK
 LNCIMU LNYRCA LNYRCAP LNYRCK LNYRKPK LNYRGE LNYRGP LNYRKT LNYRKT LNYRKT LNYRKT
 LNYRKT LNYRKCA LNYRKER LNYRKGE LNYRKIT LNYRKJA LNYRKNE LNYRKUK LNYRKUS LNYRKCA
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EXOGENOUS:

LNEUS LNGCAU LNGFRU LNGGEU LNGITU LNGJAU LNGNEU LNGKU LNGUSU LNGPOIL T

COEFFICIENT:

A1CA A1FR A1GE A1IT A1JA A1NE A1UK A1US A1UJ A1UJA A1UNE A1US A1ICA A1FR A1GE
 A1IT A1JA A1NE A1US A1ZGE A1ZNE A1ZUK A1ZUS A1ZGE A1ZIT A1ZJA A1ZNE A1ZCA A1ZGE
 A1ZJA A1ZNE A2CA A2FR A2GE A2IT A2JA A2NE A2UK A2US A3CA A3FR A3GE A3NE A3UK A3US
 A4CA A4NE A4US A5CA A5IT A5JA A5NE A6CA A6NE A6US A7FK A7GE A7NE A7UK A8CA A8GE
 A8NE A8US A9FR A9NE A9UK A9US B1CA B1FK B1GE B1IT B1JA B1NE B1UK B1US B1UJA
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EQUATIONS

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1: LNYRUSP = (1-ZPUS)*XPUS+ZPUS*LNYRUS+(1-ZPUS)*LNYRUSP(-1)
2: BTOYUS == XTOYUS-ITOYUS-CTOYUS
3: LNQIMUS == LNPIMUS-LNPUS
4: LNMUDU == LNMNUS-LNMNUSEX
5: LNMNUSEX == 2*LNMNUS(-1)-LNMNUS(-2)-0.44937*(DEL(1 : LNMNUS(-1))-DEL(1 : LNMNUS(-2)))
+0.00021-0.80994*LNMUSU(-2)
6: XTOYUSU == XTOYUS-XTOYUSEX
7: XTOYUSEX == XTOYUS(-1)+0.35462*XTOYUSU(-2)+0.20228*XTOYUSU(-3)+0.00053
8: LNYRTUS == LNYRUS-LNYRUSP
9: LNYRRUS == (DVUK*LNYRUK+DVCA*LNYRCA+DVFR*LNYRFR+DVG*LNRYGE+DVIT*LNYRIT+DVJA*LNYRJA+
DVNE*LNYRNE)*1/(1-DVUS)-7.40946
10: LNPRUS == (DVUK*(LNPUK-LNEUK)+DVCA*(LNPCA-LNECA)+DVFR*(LNPFK-LNEFK)+DVG*(LNPG-E-LNEGE)
+DVIT*(LNPIK-LNEIT)+DVJA*(LNPKA-LNEJA)+DVNE*(LNPN-E-LNEE))*1/(1-DVUS)+2.53056
11: GREUKX11 == 4*(1*(MOUK+M1UK*DEL(1 : LNPIMUK)+M2UK*DEL(1 : LNKPOIL)+M3UK*DEL(1 :
LNYRUK)+M4UK*DEL(1 : ITOYUK)+M5UK*DEL(1 : LNPRUK)+M6UK*DEL(1 : LNEUK)))
12: Z1US1L == 4*DEL(1 : LNPUS)-GRPX1US1(-1)
13: GRPX1US1 == 4*(K0US+K2US*LNMNUS(-1)+K3US*LNMNUS(-2)+K4US*DEL(1 : LNYRUS(-1))+K5US*RUS
+K9US*LNPUS(-1)+K10US*LNPUS(-2)+K11US*LNMUSU(-1))+K14US*Z1US1L+K15US*Z1US1L(-1)
14: LNPUS = B1US+LNMNUS+B2US*LNYRUSP+B3US*LNYRTUS+B4US*RUS+B5US*(LNMNUS(-1)-LNPUS(-1))+
B6US*LNMUSU+E7US*LNMUSU(-1)+E8US*LNMUSU(-2)+0*LNMUSU(-3)
15: LNYRUS = A1US+A2US*LNYRUSP(-1)+(1-A2US)*LNYRUS(-1)+A3US*LNMUSU+A4US*LNMUSU(-1)+0*
LNMUSU(-2)+A6US*LNMUSU(-3)+0*LNGUSU+A8US*LNGUSU(-1)+A9US*LNGUSU(-2)+A10US*LNGUSU(-3)+A11US*XTOYUSU+A12US*XTOYUSU(-1)+0*XTOYUSU(-2)+0*XTOYUSU(-3)
16: DEL(1 : UNUS) = C1US+C2US*DEL(1 : LNYRUS)+C21US*DEL(1 : LNYRUS(-1))+C22US*LLL(1 :
LNYRUS(-2))+C23US*DEL(1 : LNYRUS(-3))+C24US*LLL(1 : LNYRUS(-4))+C26US*DEL(1 : LNYRUS(-6))+C27US*DEL(1 : LNYRUS(-7))
17: DEL(1 : LNMNUS) = E1US+E2US*T+0*LNGUSU+E5US*(LNGUSU(-3)+LNGUSU(-4))+E8US*(LNPUS(-3)-
LNPUS(-5))+0*UNUS(-1)+E11US*UNUS(-2)+E12US*UNUS(-3)+0*UNUS(-4)+E20US*DEL(1 : LNMNUS(-1))+E21US*DEL(1 : LNMNUS(-2))
18: RUS = D0US+DIUS*GRPX1US1+D14US*RUS(-1)+D16US*GRPX1US1(-1)+D15US*T+D2US*LNMUSU+D3US*
LNMUSU(-1)+0*LNMUSU(-2)+D5US*LNMUSU(-3)+0*LNGUSU+0*LNGUSU(-1)+0*LNGUSU(-2)+0*LNGUSU(-3)+D10US*XTOYUSU+D11US*XTOYUSU(-1)+L12US*XTOYUSU(-2)+0*XTOYUSU(-3)
19: LNPIMUS = LNPIMUS(-1)+F0US+F10US*DEL(1 : LNPIMUS(-1))+F20US*DEL(1 : LNKPOIL)+0*DEL(1 :
LNYRUS)+F40US*DEL(1 : ITOYUS)+F50US*DEL(1 : LNPRUS)
20: ITOYUS = I0US+I1US*ITOYUS(-1)+I2US*LNYRUSP+I3US*LNYRTUS+I4US*LNYRTUS(-1)+I5US*LNCIMUS
+I6US*LNQIMUS(-1)+I7US*LNQIMUS(-2)+0*LNQIMUS(-3)
21: XTOYUS = H0US+H1US*LNRPOIL+H2US*LNYRTUS+H3US*T+H4US*XTOYUS(-1)+0*XTOYUS(-2)+0*LNPUS+
0*LNPUS(-1)+H8US*LNYRUS+0*LNYRUS(-1)+0*LNPUS+0*LNPUS(-1)
22: CTOYUS = G0US+G1US*T+0*LNRPOIL+0*RUS+0*GREUKX11+0*RUK+G6US*(XTOYUS-ITOYUS)+0*LNYRTUS+
0*DEL(1 : LNYRUS)+0*DEL(1 : LNYRUS)+0*DEL(1 : RUS)+0*DEL(1 : RUS(-1))+G12US*DEL(1 :
RUS(-2))+0*DEL(1 : RUK)+0*DEL(1 : RUK(-1))+G22US*DEL(1 : RUK(-2))+0*DLL(1 : GREUKX11)
+0*DEL(1 : GREUKX11(-1))+G32US*DEL(1 : GREUKX11(-2))
23: LNYRUKP = (1-ZPUK)*XPUP+ZPUP*LNYRUK+(1-ZPUK)*LNYRUKP(-1)
24: LNQIMUK == LNPIMUK-LNPUP
25: LNMURU == LNMNUK-LNMNUKEX
26: LNMNUKEX == LNMNUK(-1)+0.21096*(LNMNUK(-1)-LNMNUK(-2))+0.26454*(LNMNUK(-2)-LNMNUK(-3))
+0.000627
27: XTOYUKU == XTOYUK-XTOYUKEX
28: XTOYUKEX == XTOYUK(-1)+0.2491*XTOYUK(-2)-0.14272*XTOYUK(-4)-0.37636*XTOYUK(-7) +
0.00084
29: BTOYUK == XTOYUK-ITOYUK-CTOYUK

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30: LNYRTUK == LNYRUK-LNYRUKP
 31: LNYRUK == (DVUS*LNYRUS+LVCA*LNYRCA+DVFR*LNYRFR+DVGE*LNYRGE+DVIT*LNYRIT+DVJA*LNYRJA+DVNE*LNYRNE)*1/(1-DVUK)-7.36068
 32: LNPRUK == (DVUS*(LNPUS-LNEUS)+LVCA*(LNPCA-LNECA)+DVFR*(LNPFK-LNEFK)+DVGE*(LNPGF-LNEGEL)+DVIT*(LNPIK-LNEIT)+DVJA*(LNPAJ-LNEJA)+DVNE*(LNPNE-LNENE))*1/(1-DVUK)+1.32476
 33: ZIUKIL == 4*DEL(1 : LNPUK)-GRPX1UK1(-1)
 34: GRPX1UK1 == 4*(KOUK+K1UK*LNMMNUKEK+K2UK*LNMMNUK(-1)+K3UK*LNMMNUK(-2)+K4UK*DEL(1 : LNYRUK(-1))+0*RUK+0*RUK(-1)+K7UK*(RUS+GREUKX11)+K8UK*(RUS(-1)+GREUKX11(-1))+K9UK*LNPUK(-1)+K10UK*LNPUK(-2)+K11UK*LNMKU(-1)+0*LNMKU(-2)+0*LNMKU(-3))+K14UK*ZIUKIL+K15UK*ZIUKIL(-1)
 35: LNPUK = BIUK+LNMMNUK+B2UK*LNYRURP+B3UK*LNYRTUK+B4UK*RUK+B10UK*(RUS+GREUKX11)+B5UK*(LNMMNUK(-1)-LNPUK(-1))+B6UK*LNMKU+0*LNMKU(-1)+0*LNMKU(-2)+0*LNMKU(-3)
 36: LNYRUK = A1UK+A2UK*LNYRUKP(-1)+(1-A2UK)*LNYRUK(-1)+A3UK*LNMKU+0*LNMKU(-1)+0*LNMKU(-2)+0*LNMKU(-3)+A7UK*LNGUKU+0*LNGUKU(-1)+A9UK*LNGUKU(-2)+0*LNGUKU(-3)+0*XTOYUKU+A12UK*XTOYUKU(-1)+0*XTOYUKU(-2)+0*XTOYUKU(-3)
 37: DEL(1 : UNUK) = C1UK+C20UK*DEL(1 : LNYRUK)+C21UK*DEL(1 : LNYRUK(-1))+C22UK*DEL(1 : LNYRUK(-2))+C23UK*DEL(1 : LNYRUK(-3))+C24UK*DEL(1 : LNYRUK(-4))+C25UK*DEL(1 : LNYRUK(-5))
 38: DEL(1 : LNMMNUK) = E1UK+0*T+E3UK*LNGUKU+E4UK*(LNGUKU(-1)+LNGUKU(-2))+E11UK*UNUK(-2)+E12UK*UNUK(-3)+E13UK*UNUK(-4)+E14UK*BTOYUK+E15UK*1*BTOYUK+E16UK*(BTOYUK(-1)+BTOYUK(-2))+E17UK*(1*(BTOYUK(-1)+BTOYUK(-2)))+E18UK*(BTOYUK(-3)+BTOYUK(-4))
 39: RUK = D0UK+D1UK*GRPX1UK1+D14UK*RUK(-1)+0*GRPX1UK1(-1)+D15UK*T+D2UK*LNMKU+0*LNMKU(-1)+0*LNMKU(-2)+D5UK*LNMKU(-3)+D6UK*LNGUKU+0*LNGUKU(-1)+0*LNGUKU(-2)+0*LNGUKU(-3)+D10UK*XTOYUKU+0*XTOYUKU(-1)+0*XTOYUKU(-2)+D13UK*XTOYUKU(-3)
 40: DEL(1 : LNEUK) = FOUK+F1UK*DLL(1 : LNPIMUK)-F1UK*DEL(1 : LNPRUK)
 41: LNCIMUK = I1UK+I1UK*I TOYUK+I5UK*LNYRTUK(-1)+I6UK*LNCIMUK(-1)
 42: BTOYUK = J0UK+J1UK*BTOYUK(-1)+J3UK*DEL(1 : LNEUK(-1))
 43: XTOYUK = H0UK+H1UK*LNEUK+(H3UK+H4UK*0)*LNEUK(-1)+H5UK*LNEPCIL+0*LNYRTUK+H7UK*T+H8UK*XTOYUK(-1)+0*XTOYUK(-2)+H10UK*LNPRUK+H11UK*LNPRUK(-1)+0*LNYRUK+H13UK*LNYRUK(-1)+H14UK*LNPUK+H15UK*LNPUK(-1)
 44: CTOYUK = G0UK+G2UK*LNRPOIL+G6UK*(XTOYUK-I TOYUK)+G7UK*LNYRTUK+G8UK*DEL(1 : LNYRUK)+G12UK*DEL(1 : RUK(-2))+G22UK*DEL(1 : RUS(-2))+G32UK*DEL(1 : GREUKX11(-2))
 45: LNYRCAP = (1-ZPCA)*XPCA+ZPCA*LNYRCA+(1-ZPCA)*LNYRCAP(-1)
 46: LNQIMCA == LNPIMCA-LNPCA
 47: LNMCAU == LNPNCA-LNMNCAEX
 48: XTOYCAU == XTOYCA-XTOYCAEX
 49: XTOYCAEX == XTOYCA(-1)-0.20227*(XTOYCA(-1)-XTOYCA(-2))+0.00075-0.30644*XTOYCAU(-8)
 50: LNMNCAEX == 2*LNPNCA(-1)-LNPNCA(-2)-0.64605*(DEL(1 : LNPNCA(-1))-DEL(1 : LNPNCA(-2)))-0.65993*(DEL(1 : LNPNCA(-2))-DEL(1 : LNPNCA(-3)))+0.0004-0.46226*LNMCAU(-3)-0.58997*LNMCAU(-4)
 51: ETOYCA == XTOYCA-I TOYCA-CTOYCA
 52: LNYRTCA == LNYRCA-LNYRCAP
 53: LNYRCA == (DVUS*LNYRUS+DVUK*LNYRUK+DVFR*LNYRFR+DVGE*LNYRGE+DVIT*LNYRIT+DVJA*LNYRJA+DVNE*LNYRNE)*1/(1-DVCA)-7.26361
 54: LNPRCA == (DVUS*(LNPUS-LNEUS)+DVUK*(LNPUK-LNEUK)+DVFR*(LNPFK-LNEFK)+DVGE*(LNPGF-LNEGEL)+DVIT*(LNPIK-LNEIT)+DVJA*(LNPAJ-LNEJA)+DVNE*(LNPNE-LNENE))*1/(1-DVCA)+1.24117
 55: Z1CA1L == GRPX1CA1(-1)-GRPX1C1(-1)
 56: SGRPX1C1 == 4*(K0CA+K2CA*LNPNCA(-1)+K3CA*LNPNCA(-2)+K5CA*KCA+K6CA*KCA(-1)+K9CA*LNPCA(-1)+K10CA*LNPCA(-2)+K13CA*LNMCAU(-3))
 57: GRPX1CA1 == SGRPX1C1+K14CA*Z1CA1L+K15CA*Z1CA1L(-1)
 58: GRECA11 == 4*(1*(MOCA+M1CA*DEL(1 : LNPIMCA)+M2CA*DEL(1 : LNPIOIL)+M3CA*DEL(1 : LNYRCA))+M4CA*DEL(1 : I TOYCA)+M5CA*DEL(1 : LNPKA)+M6CA*DEL(1 : LNECA)))
 59: LNPCA = B1CA+LNPNCA+B2CA*LNYRCAP+B3CA*LNYRTCA+B4CA*KCA+B5CA*(LNPNCA(-1)-LNPCA(-1))+B6CA*LNMCAU+B7CA*LNMCAU(-1)+B8CA*LNMCAU(-2)+B9CA*LNMCAU(-3)
 60: LNYRCA = A1CA+A2CA*LNYRCAP(-1)+(1-A2CA)*LNYRCA(-1)+A3CA*LNMCAU+A4CA*LNMCAU(-1)+A5CA*LNMCAU(-2)+A6CA*LNMCAU(-3)+A8CA*LNGCAU(-1)+A11CA*XTOYCAU+A14CA*XTOYCAU(-3)

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61: DEL(1 : LNMNCA) = EICA+E2CA*T+E3CA*LNGCAU+E4CA*(LNGCAU(-1)+LNGCAU(-2))+E10CA*LNYRTCA(-1)+E14CA*ETOYCA+E15CA*I*ETOYCA+E16CA*(ETOYCA(-1)+ETOYCA(-2))+E17CA*(I*(ETOYCA(-1)+ETOYCA(-2)))+E19CA*(I*(ETOYCA(-3)+ETOYCA(-4)))

62: RCA = DUCA+DICA*GRPX1CA1+D14CA*kCA(-1)+E15CA*T+D4CA*LNMCAU(-2)+D5CA*LNMCAU(-3)+DUCA*LNGCAU+D6CA*LNGCAU(-2)+D7CA*LNGCAU(-3)

63: DEL(1 : LNECA) = FUCA+F1CA*DEL(1 : LNPIMCA)+E3CA*DEL(1 : LNRPOL)-F1CA*DEL(1 : LNRCRA)

64: LNCIMCA = IUCA+I1CA*ITOYCA+E3CA*LNYRCA+I5CA*LNYRTCA(-1)+I6CA*LNCIMCA(-1)

65: ETOYCA = JOCA+J1CA*BTOYCA(-1)+J2CA*DEL(1 : LNECA)

66: XTOYCA = HOCA+(H3CA+H4CA*U)*LNECA(-1)+H5CA*LNRPOIL+U*LNYRTCA+H7CA*I+H8CA*XTOYCA(-1)+H9CA*XTOYCA(-2)+U*LNRPCA+H11CA*LNRPCA(-1)+H12CA*LNYRCA+H13CA*LNYRCA(-1)+U*LNRCA+H15CA*LNPKA(-1)

67: CTOYCA = GUCA+G6CA*(XTOYCA-ITOYCA)+G8CA*DEL(1 : LNRCRA)+G9CA*DEL(1 : LNRCRA)+G10CA*DEL(1 : RCA)+G2UCA*DEL(1 : RUS)+G3UCA*DEL(1 : GRECA11)

68: LNYRFK = (1-ZPFR)*XPFR+ZPFR*LNYRFK+(1-ZPFR)*LNYRFK(-1)

69: LNCIMFK == LNPIMFR-LNPFR

70: LNMFRU == LNMNFR-LNMNFREX

71: LNMNFREX == LNMNFR(-1)+0.54204*(LNMNFR(-1)-LNMNFK(-2))+U.01294+0.45793*LNMFAU(-6)

72: XTOYFRU == XTOYFR-XTOYFREX

73: XTOYFREX == XTOYFR(-1)-0.23545*(XTOYFR(-1)-XTOYFR(-2))+0.26219*XTOYFRU(-2)-0.36552*XTOYFRU(-4)+U.00131

74: BTOYFR == XTOYFR-ITOYFR-CTOYFR

75: LNYRTFR == LNYRFR-LNYRFK

76: LNYRKFk == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+DVGE*LNYRGE+DVIT*LNYRIT+DVJA*LNYRJA+DVNE*LNYRNE)*1/(1-DVFR)-7.18014

77: LNPRFK == (DVUS*(LNpus-LNEus)+DVUK*(LNPUK-LNEuk)+DVCA*(LNPCA-LNECA)+DVGE*(LNPGC-LNEGE)+DVIT*(LNPIt-LNEit)+DVJA*(LNPIja-LNEja)+DVNE*(LNPN-E-LNENE))*1/(1-DVFR)+1.14182

78: Z2FR1 == GRPX1FRI-SGPX1F1

79: SGFX1F1 == 4*(KUFk+K2FR*DEL(1 : LNMNFk(-1))+K6FR*KFR(-1)+K9FR*DEL(1 : LNPFk(-1))+K11FR*LNMFAU(-1))

80: GRPX1FRI == SGFX1F1+K14FR*Z2FR1(-1)+K15FR*Z2FR1(-2)

81: GREFRX11 == 4*(M0FR+M1FR*DEL(1 : LNPIMFR)+M2FR*DEL(1 : LNRPOL)+M3FR*DEL(1 : LNYRFR)+M4FR*DEL(1 : ITOYFR)+M5FR*DEL(1 : LNPRFR)+M6FR*DEL(1 : LNEFR))

82: LNPFk = B1FR+LNMNFR+B2FR*LNYRFk+U*LNYRTFR+B4FR*KFR+B10FR*(RUS+GREFRX11)+B5FR*(LNMNFR(-1)-LNPFk(-1))+B6FR*LNMFRU+B7FR*LNMFRU(-1)+U*LNMFAU(-2)+U*LNMFAU(-3)

83: LNYRFR = A1FR+A2FR*LNYRFk(-1)+(1-A2FR)*LNYRFk(-1)+A3FR*LNMFRU+A7FR*LNGFRU+A9FR*LNGFRU(-2)+A11FR*XTOYFRU

84: DEL(1 : UNFR) = C1FR+C2UFR*DEL(1 : LNYRFR)+C21FR*DEL(1 : LNYRFR(-1))+C22FR*DEL(1 : LNYRFR(-2))+C23FR*DEL(1 : LNYRFR(-3))+C25FR*D1L(1 : LNYRFR(-5))+C27FR*DEL(1 : LNYRFR(-7))

85: DEL(1 : LNMNFR) = E1FR+E2FR*T+E4FR*(LNGFRU(-1)+LNGFRU(-2))+E6FR*(LNPFk(-1)-LNPFk(-3))+E8FR*(LNPFk(-3)-LNPFk(-5))+E9FR*(I*(LNPFk(-3)-LNPFk(-5)))+E11FR*UNFR(-2)+L12FR*UNFR(-3)+L13FR*UNFR(-4)+E14FR*BTOYFR+E16FR*(BTOYFR(-1)+ETOYFR(-2))+E18FR*(BTOYFR(-3)+ETOYFR(-4))

86: KFR = DUER+D1FR*GRPX1FRI+D14FR*KFR(-1)+D15FR*T+D2FR*LNMFRU+D3FR*LNMFRU(-1)+D6FR*LNGFRU+D12FR*XTOYFRU(-2)

87: DEL(1 : LNEFR) = FUFR+F1FR*DEL(1 : LNPIMFR)+F3FR*DEL(1 : LNRPOL)-F1FR*DEL(1 : LNPFk)

88: LNCIMFR = I0FR+I1FR*I10FR+I3FR*LNYRFk+I4FR*LNYRTFR+I6FR*LNCIMFR(-1)

89: BTOYFR = JUFR+J2FR*DEL(1 : LNEFR)

90: XTOYFR = BUFR+H1FR*LNEFR+H3FR*LNEFR(-1)+H5FR*LNRPOIL+H7FR*T+H8FR*XTOYFR(-1)+H9FR*XTOYFR(-2)+H11FR*LNPFR(-1)+H12FR*LNYRFR+H15FR*LNPFk(-1)

91: CTOYFR = GUFR+G3FR*RFR+G4FR*GREFRX11+G5FR*RUS+G6FR*(XTOYFR-ITOYFR)+G8FR*DEL(1 : LNYRFR)+G9FR*DEL(1 : LNYRFR)

92: LNYRGE = (1-ZPGE)*XPGE+ZPGE*LNYRGE+(1-ZPGE)*LNYRGE(-1)

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93: LNCIMGE == LNPIMGL-LNPGE
94: LNMGLU == LNMMGL-LMNMGLEX
95: LNMNGLEX == LNMNGE(-1)+0.02266+0.1074*LNMGEU(-1)+0.27425*LNMGEU(-2)+0.35616*LNMGEU(-3)
96: XTOYGLU == XTOYGE-XTOYGLEX
97: ETOYGE == XTOYGE-ITOYGE-CTOYGE
98: XTOYGLEX == XTOYGE(-1)-0.42012*XTOYGLU(-4)+0.00141
99: LNYRTGL == LNYRGE-LNYRGEF
100: LNYRRGE == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+LVFR*LNYRFR+DVIT*LNYKIT+DVJA*LNYRJA+
    DVNL*LNYRNE)*1/(1-DVGE)-7.20584
101: LNPRLGL == (DVUS*(LNPUS-LNEUS)+DVUK*(LNPUK-LNEUK)+DVCA*(LNPCA-LNECA)+DVFR*(LNPFR-LNEFR)
    )+DVIT*(LNPIT-LNEIT)+DVJA*(LNPJA-LNLJA)+DVNE*(LNPNE-LNENE))*1/(1-DVGE)+1.17274
102: Z1GE1L == 4*DEL(1 : LNPGF)-GRPX1GE1
103: GRPX1GE1 == 4*(K0GE+K1GE*(LNMMGEX-LNMNGE(-1))+K4GE*DLL(1 : LNYRGE(-1))+K6GE*RGE(-1)+K9GL*(LNPGF(-1)-LNPGF(-2)))+0.0475*Z1GL1L-0.4236*Z1GE1L(-1)
104: GREGLX21 == 4*(1*(MUGE+M1GE*DEL(1 : LNPINGE)+M2GE*DEL(1 : LNRPOIL)+M3GE*DEL(1 : LNYRRGE)+M4GE*DEL(1 : ITOYGE)+M5GE*DEL(1 : LNPGF)+M6GE*DEL(1 : LNEGGE)))
105: LNPGF = E1GE+LNMMGE+B2GE*LNYRGE+U*LNYRTGE+B4GE*RGL+U*(RUS+GREGEX21)+B5GE*(LNMMGE(-1)
    -LNPGF(-1))+E6GE*LNMGLU+B7GE*LNMGEU(-1)+E8GE*LNMGEU(-2)+E9GE*LNMGEU(-3)
106: LNYRGE = A1GE+A2GE*LNYRGE(-1)+(1-A2GE)*LNYRGE(-1)+A3GE*LNMGEU+U*LNMGEU(-1)+U*LNMGLU(-2)+U*LNMGEU(-3)+A7GE*LNGGEU+A8GE*LNGGEU(-1)+U*LNGGEU(-2)+U*LNGGEU(-3)+A11GE*XTOYGEU(-1)+A13GE*XTOYGEU(-2)+A14GE*XTOYGEU(-3)
107: E1L(1 : LNMMGE) = E1CE+U*T+E3GE*LNGGEU+E7GE*(1*(LNPGF(-1)-LNPGF(-3)))+E8GE*(LNPGF(-3)
    -LNPGF(-5))+E9GE*(1*(LNPGF(-3)-LNPGF(-5))+U*LNYRTGE(-1)+U*LNYRGE(-2)+U*LNYRGE(-3)+U*LNYRTGE(-4)+E14GE*E7CYGL+U*E7CYGE+E18GE*(LTCYGE(-3)+E7CYGE(-4)))
108: RGE = DUGE+D1GE*GRPX1GE1+E14GE*RGE(-1)+U*GRPX1GE1(-1)+U*T+U*LNMGEU+U*LNMGEU(-1)+U*LNMGEU(-2)+U*LNMGEU(-3)+U*LNGGEU+U*LNGGEU(-1)+U*LNGGLU(-2)+U*LNGGEU(-3)+U*XTOYGEU(-1)+U*XTOYGEU(-2)+U*XTOYGEU(-3)
109: DEL(1 : LNEGGE) = F0GE+F1GE*DEL(1 : LNPIMLE)+F3GE*DLL(1 : LNRPOIL)+F4GE*DEL(1 : LNYRGE)-F1GE*DLL(1 : LNPGF)
110: LNQIMGL = IUGL+J1GE*ITOYGE+I0GE*LNQIMGL(-1)
111: E7CYGE = J0GE+J2GE*DEL(1 : LNECE)+J4GE*DEL(1 : LNPGF(-1))
112: XTOYGE = H0GE+H1GE*LNEGGE+U*LNEGGE(-1)+H5GL*LNRPOIL+U*LNYRTGE+U*T+H8GE*XTOYGE(-1)+U*XTOYGE(-2)+H1UGE*LNPRLGL+U*LNPRLGE(-1)+H12GE*LNYRGE+U*LNYRRGE(-1)+U*LNPGE+H15GE*LNPGL(-1)
113: CTOYGE = GUGE+0*T+0*LNRPOIL+U*RGE+U*GRECX21+U*RUS+G6GE*(XTOYGL-1TOYGE)+U*LNYRTGE+
    G8GL*DEL(1 : LNYRGE)+G9GE*DEL(1 : LNYRGE)+C10GE*DLL(1 : RGL)+U*DEL(1 : RGE(-1))+U*
    DLL(1 : RGE(-2))+G20GE*DEL(1 : RUS)+U*DEL(1 : RUS(-1))+U*DEL(1 : RUS(-2))+G30GL*DLL(1 : GREGEX21)+U*DEL(1 : GREGEX21(-1))+U*LLL(1 : GREGEX21(-2))
114: LNYKITP = (1-ZPIT)*XPIT+ZPIT*LNYKIT+(1-ZPIT)*LNYKITP(-1)
115: LNQIMIT == LNPIIMIT-LNPIT
116: LNMNITU == LNMNIT-LNMNITEX
117: LNMNITEX == LNMNIT(-1)+0.15625*(LNMNIT(-1)-LNMNIT(-2))+0.02829+0.35998*LNMNITU(-2)+0.10908*LNMNITU(-3)
118: XTOYITU == XTOYIT-XTOYITEX
119: XTOYITEX == XTOYIT(-1)-0.15095*(XTOYIT(-1)-XTOYIT(-2))+0.19592*(XTOYIT(-2)-XTOYIT(-3))
    )-0.14307*XTOYITU(-6)+0.29814*XTOYITU(-11)+0.00221
120: ETOYIT == XTCYIT-ITOYIT-CTCYIT
121: LNYRTIT == LNYRIT-LNYRITP
122: LNYRKIT == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+LVFR*LNYRFR+DVGE*LNYRGE+DVJA*LNYRJA+
    DVNE*LNYRNE)*1/(1-LVIT)-6.93985
123: LNPRTIT == (DVUS*(LNPUS-LNEUS)+DVUK*(LNPUK-LNEUK)+DVCA*(LNPCA-LNECA)+DVFR*(LNPFR-LNEFR)
    )+DVGE*(LNPGF-LNEGGE)+DVJA*(LNPJA-LNLJA)+DVNE*(LNPNE-LNENE))*1/(1-DVIT)+0.920318
124: Z1IT1 == GRPX1IT1-SGRPX1IT1

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125: SGRPX1I1 = 4*(K0IT+K2IT*DEL(1 : LNMNIT(-1))+K4IT*DEL(1 : LNYRIT(-1))+K9IT*DEL(1 :
LNPIT(-1))+K11IT*LNMITU(-1)+K12IT*LNMITU(-2)+K13IT*LNMITU(-3))

126: GRPX1I1T1 == SGRPX1I1+K14IT*Z1I1T1(-1)+K15IT*Z1I1T1(-2)

127: GREITX1I1 == 4*(M0IT+M1IT*DEL(1 : LNPIIMIT)+M2IT*DEL(1 : LNPOIL)+M3IT*DEL(1 :
LNYRRIT)+M4IT*DEL(1 : ITOYIT)+M5IT*DEL(1 : LNPIT)+M6IT*DEL(1 : LNEIT))

128: LNPIT = B1IT+LNMNIT+B2IT*LNYRITP+U*LNYRTIT+B4IT*RIT+B5IT*(LNMNIT(-1)-LNPIT(-1))+B6IT*
LNMITU+B7IT*LNMITU(-1)+B8IT*LNMITU(-2)+B9IT*LNMITU(-3)

129: LNYRIT = A1IT+A2IT*LNYRITP(-1)+(1-A2IT)*LNYRIT(-1)+A5IT*LNMITU(-2)+A10IT*LNGITU(-3)+
A11IT*XTOYITU+A13IT*XTOYITU(-2)

130: DEL(1 : LNMNIT) = E1IT+E2IT*T+E4IT*(LNGITU(-1)+LNGITU(-2))+E5IT*(LNGITU(-3)+LNGITU(-4))
+E6IT*(LNPIT(-1)-LNPIT(-3))+E13IT*LNYRTIT(-4)+E14IT*ETOYIT+E15IT*1*ETOYIT+E16IT*(
ETOYIT(-1)+ETOYIT(-2))

131: KIT = D0IT+D1IT*GRPX1I1T1+D14IT*KIT(-1)+D4IT*LNMITU(-2)+K6IT*LNGITU+L7IT*LNGITU(-1)+
D10IT*XTOYITU+D11IT*XTOYITU(-1)

132: DEL(1 : LNEIT) = F0IT+F1IT*DEL(1 : LNPIIMIT)-F1IT*DEL(1 : LNPIT)

133: LNGIMIT = I0IT+I1IT*ITCYIT+I4IT*LNYRTIT+I6IT*LNGIMIT(-1)

134: ETOYIT = J0IT+J2IT*DEL(1 : LNEIT)+J3IT*DEL(1 : LNEIT(-1))

135: XTOYIT = H0IT+H3IT*LNEIT(-1)+H5IT*LNPPOIL+H6IT*LNYRIT+H7IT*T+H8IT*XTOYIT(-1)+H9IT*
XTOYIT(-2)+H11IT*LNPIT(-1)+H13IT*LNYRRIT(-1)+H15IT*LNPIT(-1)

136: CTOYIT = G0IT+G3IT*KIT+G4IT*GREITX1I1+G5IT*KUS+G6IT*(XTOYIT-ETOYIT)

137: LNYRJA = (1-ZPJA)*XPJA+ZPJA*LNYRJA+(1-ZPJA)*LNYRJA(-1)

138: LNGIMJA == LNPIMJA-LNPJA

139: LNMJAU == LNMNJA-LNMNJAEX

140: LNMNJAEX == LNMNJA(-1)+0.44614*(LNMNJA(-1)-LNMNJA(-2))+0.17889*(LNMNJA(-2)-LNMNJA(-3))
+0.01474-0.37841*LNMJAU(-4)

141: XTOYJA == XTOYJA-XTOYJAEX

142: XTOYJAEX == 2*XTOYJA(-1)-XTOYJA(-2)-1.1134*(DEL(1 : XTOYJA(-1))-DEL(1 : XTOYJA(-2)))-0.38594*(DEL(1 : XTOYJA(-2))-DEL(1 : XTOYJA(-3)))-0.60316*XTOYJA(-4)+0.36554*XTOYJA(-5)
+0.00000E-05

143: ETOYJA == XTOYJA-ITCYJA-CTCYJA

144: LNYRJA == LNYRJA-LNYRJA

145: LNYRRAJA == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+DVFR*LNYRFK+DVGE*LNYRGE+DVIT*LNYRIT+
DVNE*LNYRNE)*1/(1-DVJA)-0.64583

146: LNPRAJA == (DVUS*(LNPUS-LNEUS)+DVUK*(LNPUK-LNEUK)+DVCA*(LNPCA-LNECA)+DVFR*(LNPFR-LNEFR)
+DVGE*(LNPGE-LNEGE)+DVIT*(LNPIT-LNEIT)+DVNE*(LNPNE-LNENL))*1/(1-DVJA)+0.617771

147: Z1JA2 == GRPX1JA2-SGRPX1J2

148: SGRPX1J2 == 4*(K0JA+K2JA*DEL(1 : LNMNJA(-1))+K5JA*KJA+K6JA*KJA(-1)+K7JA*(KUS+GREJAX21)
+K9JA*DEL(1 : LNEJA(-1)))

149: GRPX1JA2 == SGRPX1J2+K14JA*Z1JA2(-1)+K15JA*Z1JA2(-2)

150: GREJAX21 == 4*(M0JA+M1JA*DEL(1 : LNPIMJA)+M2JA*DEL(1 : LNPOIL)+M3JA*DEL(1 :
LNYRRAJA)+M4JA*DEL(1 : ITOYJA)+M5JA*DEL(1 : LNPRAJA)+M6JA*LLL(1 : LNEJA))

151: LNPJA = E1JA+LNMNJA+E2JA*LNYRJA+E3JA*LNYRTJA+E4JA*KJA+E5JA*B10JA*(KUS+GREJAX21)+B5JA*(
LNMNJA(-1)-LNPJA(-1))+E6JA*LNMJAU+B7JA*LNMJAU(-1)+E8JA*LNMJAU(-2)+E9JA*LNMJAU(-3)

152: LNYRJA = A1JA+A2JA*LNYRJA(-1)+(1-A2JA)*LNYRJA(-1)+A5JA*LNMJAU(-2)+A10JA*LNGJAU(-3)+
A11JA*XTOYJA+A13JA*X10JAU(-2)+A14JA*X10JAU(-3)

153: DEL(1 : LNMNJA) = E1JA+E6JA*(LNPJA(-1)-LNPJA(-3))+E7JA*(1*(LNPJA(-1)-LNPJA(-3)))+E8JA
*(LNPJA(-3)-LNPJA(-5))+E12JA*LNYRTJA(-3)+E13JA*LNYRJA(-4)+E14JA*ETOYJA+E16JA*(ETOYJA
(-1)+ETOYJA(-2))+E17JA*(1*(ETOYJA(-1)+ETOYJA(-2)))+E18JA*(ETOYJA(-3)+ETOYJA(-4))+
E19JA*(1*(ETOYJA(-3)+ETOYJA(-4)))

154: KJA = D0JA+D1JA*GRPX1JA2+D14JA*KJA(-1)+L10JA*GRPX1JA2(-1)+L15JA*1+L22JA*LNMJAU+L30JA*
LNMJAU(-1)+D4JA*LNMJAU(-2)+L5JA*LNMJAU(-3)+U*LNGJAU+L7JA*LNGJAU(-1)

155: LLL(1 : LNEJA) = F0JA+F1JA*LLL(1 : LNPIMJA)+F4JA*DEL(1 : LNYRRAJA)-F1JA*DEL(1 : LNPRAJA)

156: LNGIMJA = I0JA+I1JA*ITOYJA+I4JA*LNYRTJA+I6JA*LNGIMJA(-1)

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157: BTOYJA = J0JA+J1JA*BTOYJA(-1)
158: XTOYJA = H0JA+H1JA*LNEJA+H5JA*LNRPOIL+H6JA*LNYKTJA+H7JA*T+H8JA*XTOYJA(-1)+H9JA*XTOYJA
(-2)+H10JA*LNPKJA+H12JA*LNYKKJA+H13JA*LNYRRJA(-1)+H14JA*LNPJA
159: CTOYJA = GOJA+G1JA*T+G3JA*RJA+G4JA*GHEJAX21+G5JA*RUS+G8JA*DEL(1 : LNYRJA)
160: LNYRNEP = (1-ZPNE)*XPNE+ZPNE*LNYRNE+(1-ZPNE)*LNYRNEP(-1)
161: LNQIMNE == LNQIMNE-LNPNE
162: LNMNEU == LNMNNE-LMNNEEX
163: LNMNNEEX == LNMNNE(-1)+0.34717*(LNMNNE(-1)-LNMNNE(-2))+0.37492*(LNMNNE(-2)-LNMNNE(-3))
    )-0.43951*LNMNEU(-4)+0.00681
164: XTOYNEU == XTOYNE-XTOYNEEX
165: XTOYNEEX == XTOYNE(-1)-0.31379*XTOYNEU(-1)-0.33862*XTOYNEU(-9)+0.00094
166: BTOYNE == XTOYNE-ITOYNE-CTOYNE
167: LNYRTNE == LNYRNE-LNYRNEP
168: LNYRNE == (DVUS*LNYRUS+DVUK*LNYRUK+DVCA*LNYRCA+DVF'R*LNYRFR+DVGE*LNYRGE+DVIT*LNYRIT+
    DVJA*LNYRJA)*1/(1-DVNE)-7.17908
169: LNPKNE == (DVUS*(LNPUS-LNEUS)+DVUK*(LNPUK-LNEUK)+DVCA*(LNPCA-LNECA)+DVF'R*(LNPF'R-LNLF'R)
    )+DVGE*(LNPGE-LNEG)+DVIT*(LNPIT-LNEIT)+DVJA*(LNPJA-LNEJA))*1/(1-DVNE)+1.1638
170: Z1NELL == 4*DEL(1 : LNPNE)-GRPX1NELL(-1)
171: GRPX1NELL == 4*(KUNE+K1NE*LNMNNEEX+K2NE*LNMNNE(-1)+K4NE*DEL(1 : LNYRNE(-1))+K6NL*KNL
    (-1)+K9NE*DEL(1 : LNPNE(-1))+K1INE*LNMNEU(-1))+K14NE*Z1NELL+K15NE*Z1NELL(-1)
172: GRENEX11 == 4*(1*(MUNE+MINE*DEL(1 : LNQIMNE)+M2NE*DEL(1 : LNPPOIL)+M3NE*DEL(1 :
    LNYRNE)+M4NE*DEL(1 : ITOYNE)+M5NE*DEL(1 : LNPRNE)+M6NE*DEL(1 : LNENE)))
173: LNPNE = S1NE+LNMNNE+B2NE*LNYRNEP+B3NE*LNYRTNE+E4NE*RNE+B1ONE*(RUS+GRENEX11)+B5NE*
    LNMNNE(-1)-LNPNE(-1)+E6NE*LNMNEU+B7NE*LNMNEU(-1)+E8NE*LNMNEU(-2)+E9NE*LNMNEU(-3)
174: LNYRNE = A1NE+A2NE*LNYRNEP(-1)+(1-A2NE)*LNYRNE(-1)+A3NE*LNMNEU+A4NE*LNMNEU(-1)+A5NE*
    LNMNEU(-2)+A6NE*LNMNEU(-3)+A7NE*LNGNEU+A8NE*LNGNEU(-1)+A9NE*LNGNEU(-2)+A10NE*LNGNEU
    (-3)+A11NE*XTOYNEU+A12NE*XTOYNEU(-1)+A13NE*X1OYNEU(-2)+A14NE*XTCYNEU(-3)
175: DEL(1 : LNMNNE) = E1NE+E2NE*T+E3NE*LNGNEU+E4NE*(LNGNEU(-1)+LNGNEU(-2))+E5NE*(LNGNEU
    (-3)+LNGNEU(-4))+E6NE*(LNPNE(-1)-LNPNE(-3))+E7NE*(1*(LNPNE(-1)-LNPNE(-3)))+E11NE*
    LNYRTNE(-2)+E12NE*LNYRTNE(-1)+E14NE*BTOYNE+E16NE*(BTOYNE(-1)+BTOYNE(-2))+E17NE*(1*(BTOYNE
    (-1)+BTOYNE(-2)))
176: RNE = DONE+DINE*GRPX1NELL+D14NE*RNE(-1)+D15NE*T+D3NE*LNMNEU(-1)+D4NE*LNMNEU(-2)+D1UNE*
    XTOYNEU+D11NE*XTOYNEU(-1)+D13NE*X1OYNEU(-3)
177: DEL(1 : LNENE) = FUNE+FINE*DEL(1 : LNQIMNE)-FINE*DEL(1 : LNPRNE)
178: LNQIMNE = IONE+I1NE*ITOYNE+I5NE*LNYRTNE(-1)+I6NE*LNQIMNE(-1)
179: BTOYNE = JUNE+J2NE*DEL(1 : LNENE)+J3NE*LEL(1 : LNENE(-1))
180: XTOYNE = HONE+H1NE*LNENE+H5NE*LNRPOIL+H6NE*LNYRTNE+H7NE*T+H8NE*XTOYNE(-1)+H1ONE*
    LNPRNE+H2NE*LNYRKE+H13NE*LNYRNE(-1)+H14NE*LNPNE
181: CTOYNE = GUNE+G1NE*1+G2NE*LNRPOIL+G3NE*RNE+G4NE*GRENEX11+G5NE*RUS+G6NE*(XTOYNE-ITOYNE
    )+G7NE*LNYRTNE

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COEFFICIENT AND PARAMETER VALUES

A1CA	0.010803	A1FR	0.012619	A1GE	0.010821
A1IT	0.011699	A1JA	0.020614	A1NE	0.009964
A1UK	0.005561	A1US	0.007884	A1UCA	-0.01349
A1UFR	0.016439	A1UGE	0.013896	A1UIT	0.025164
A1UJA	-0.026697	A1UNE	0.035157	A1UOK	-0.023974
A1OUS	0.067441	A1ICA	0.679057	A1IFR	0.213191
A11GE	0.296236	A11IT	-0.383459	A11JA	-1.91914
A11NE	0.097619	A11UK	0.169683	A11US	0.717539
A12CA	0.164836	A12FK	-0.715374	A12GE	-0.23778
A12IT	-0.044277	A12JA	0.349852	A12NE	-0.064686
A12UK	0.42402	A12US	0.532314	A13CA	-0.026676
A13FR	0.015316	A13GE	-0.333226	A13IT	-0.227114
A13JA	-1.15516	A13NE	0.104741	A13UK	-0.212087
A13US	-0.0415	A14CA	0.544787	A14FK	0.121494

A14GE	-0.514582	A14IT	-0.465483	A14JA	-1.09256
A14NE	-0.113143	A14UK	0.006859	A14US	-0.925131
A2CA	0.134071	A2FK	0.102126	A2GE	0.04147
A2IT	0.02481	A2JA	-0.038396	A2NE	0.090174
A2UK	0.240655	A2US	0.088859	A3CA	0.244662
A3FK	-0.264118	A3GE	0.344667	A3IT	0.093876
A3JA	0.142673	A3NE	0.241164	A3UK	-0.18449
A3US	0.967393	A4CA	0.177733	A4EK	0.068796
A4GE	0.069415	A4IT	0.079064	A4JA	0.1083
A4NE	0.094424	A4UK	0.040359	A4US	0.548935
A5CA	0.075535	A5FR	0.10011	A5GL	-0.01725
A5IT	0.266542	A5JA	0.211515	A5NE	-0.03886
A5UK	-0.026207	A5US	-0.04704	A6CA	0.193415
A6FR	-0.055212	A6GE	0.04078	A6IT	-0.01757
A6JA	0.088371	A6NE	0.006819	A6UK	-0.126895
A6US	0.935403	A7CA	-0.004872	A7FK	0.072732
A7GE	-0.036326	A7IT	-0.001348	A7JA	0.044266
A7NE	0.037422	A7UK	0.174624	A7US	-0.034466
A8CA	-0.149956	A8FR	0.007462	A8GL	0.030281
A8IT	0.000596	A8JA	-0.019563	A8NE	-0.031161
A8UK	0.027366	A8US	0.136711	A9CA	-0.02829
A9FR	0.049895	A9GE	-0.00762	A9IT	-0.001626
A9JA	0.044973	A9NE	0.016572	A9UK	0.118697
A9US	0.05507	B1CA	0.119397	B1FK	0.05478
B1GE	0.073547	B1IT	0.206264	B1JA	0.446139
B1NE	-0.005675	B1UK	-0.151938	B1US	0.083905
B1UCA	-0.056102	B1UFR	0.029941	B1UGE	-0.008847
B1UIT	-0.037786	B1UJA	0.080375	B1UNE	0.000617
B1OUK	0.078828	B1OUS	-0.001131	B2CA	-0.218794
B2FK	-0.018392	B2GE	-0.063613	B2IT	-0.069662
B2JA	-0.201664	B2NE	-0.081635	B2UK	-0.046694
B2US	-0.022227	B3CA	-0.152691	B3FR	-0.018666
B3GE	-0.006227	B3IT	-0.042952	B3JA	-0.065941
B3NE	0.107645	B3UK	-0.276035	B3US	-0.09072
B4CA	0.244962	B4FR	0.462903	B4GE	0.023618
B4IT	0.160445	B4JA	0.95586	B4NE	-0.013744
B4UK	0.504004	B4US	0.346502	B5CA	-0.628764
B5FR	-0.996466	B5GE	-0.935252	B5IT	-0.947664
B5JA	-0.827685	B5NE	-0.690964	B5UK	-0.872932
B5US	-0.9906	B6CA	-1.07886	B6FK	-0.724769
B6GE	-1.07676	B6IT	-1.24523	B6JA	-0.980582
B6NE	-0.977966	B6UK	-0.689923	B6US	-0.725851
B7CA	-0.267171	B7FR	-0.237026	B7GE	-0.141736
B7IT	-0.191914	B7JA	-0.356822	B7NL	-0.451249
B7UK	0.037385	B7LS	-0.393195	B8CA	-0.271711
B8FR	0.024827	B8CE	-0.311723	B8IT	-0.376615
B8JA	-0.312743	B8NE	-0.621455	B8UK	-0.151933
B8US	0.169632	B9CA	-0.635720	B9FR	0.04942
B9GE	-0.308631	B9IT	-0.151063	B9JA	-0.265714
B9NE	-0.309134	B9UK	-0.167466	B9US	0.016405
C1FR	0.001842	C1UK	0.002293	C1US	0.004693
C20FR	-0.033332	C20UK	-0.067530	C20US	-0.198491
C21FR	-0.036075	C21UK	-0.032481	C21US	-0.187741
C22FR	-0.024205	C22UK	-0.064932	C22US	-0.050647
C23FR	-0.011601	C23UK	-0.054861	C23US	-0.063531
C24FR	-0.003691	C24UK	-0.041132	C24US	0.059092
C25FR	-0.010717	C25UK	-0.01505	C25US	0.017716
C26FR	0.000474	C26UK	-0.005727	C26US	-0.027592
C27FR	0.0072	C27UK	0.000353	C27US	-0.061705
DVCA	0.046296	DVFR	0.077221	DVGL	0.107001
DVIT	0.048061	DVJA	0.107698	DVNE	0.016771
DVUK	0.063287	DVUS	0.531464	DVCA	0.002086
D0FR	0.003366	D0GE	0.003628	D0IT	-0.002471
D0JA	-0.000932	D0NE	0.003565	D0UK	0.003081
D0US	0.010089	D1CA	0.049893	D1FR	0.073674
D1GE	0.231726	D1IT	0.027008	D1JA	0.027117
D1NE	-0.043995	D1UK	0.009035	D1LS	0.434367
D1UCA	-0.007663	D1UFK	0.20013	D1UGE	0.20221
D1UIT	0.239529	D1UJA	0.007364	D1UNE	0.137002
D1OUK	0.192508	D1OUS	0.508074	D1ICA	0.037266
D11FK	0.12238	D11GL	-0.24158	D11IT	0.161757
D11JA	-0.025161	D11NL	0.06167	D11UK	0.018407
D11US	0.23597	D12CA	-0.013955	D12FR	0.194566
D12GE	0.0877	D12IT	0.054745	D12JA	0.025661
D12NE	0.03381	D12UK	-0.003938	D12US	0.544253
D13CA	-0.032712	D13FK	0.07675	D13GE	-0.24942
D13IT	-0.009773	D13JA	0.002267	D13NE	0.046054
D13UK	0.213998	D13US	-0.213716	D14CA	0.961863
D14FK	0.763452	D14GL	0.76264	D14IT	1.02766
D14JA	0.983108	D14NE	0.799526	D14UK	0.825858
D14US	0.539202	D15CA	-3.498167E-05	D15FR	0.000154
D15GE	3.845550E-05	D15IT	1.960370E-05	D15JA	-2.144426E-05
D15NE	0.000151	D15UK	0.000183	D15US	-6.091796E-06
D16CA	0.005978	D16FR	0.0124	D16GE	-0.06953

L16IT	-0.019956	D16JA	0.030426	D16NL	0.04514
D16UK	-0.022298	D16US	-0.154652	D2CA	-0.076202
D2FK	-0.49829	D2GE	0.1307	D2IT	-0.020366
D2JA	-0.006693	D2NL	0.07638	D2UK	-0.299766
D2US	-0.230722	D3CA	0.015319	D3FK	-0.154023
D3GE	0.07571	D3IT	0.004011	D3JA	-0.021473
D3NL	-0.162029	D3UK	0.025404	D3US	0.163077
D4CA	0.092836	D4FK	-0.09139	D4GE	0.10942
D4IT	0.037063	D4JA	-0.032911	D4NL	0.06593
D4UK	0.036448	D4US	0.091665	D5CA	0.116664
D5FK	0.03674	D5GE	0.05652	D5IT	0.02739
D5JA	-0.016762	D5NE	0.00622	D5UK	0.077159
D5US	0.103347	D6CA	-0.073145	D6FK	-0.034926
D6GE	-0.02391	D6IT	-0.005267	D6JA	0.000469
D6NL	0.00239	D6UK	-0.050417	D6US	-0.020453
D7CA	-0.001992	D7FR	0.01672	D7GE	0.00277
D7IT	-0.004384	D7JA	0.001793	D7NL	0.00041
D7UK	0.022654	D7US	0.01894	D8CA	0.032661
D8FK	-0.01609	D8GE	-0.0128	D8IT	-0.000764
D8JA	0.000889	D8NE	0.00664	D8UK	0.014188
D8US	0.02294	D9CA	0.017438	D9FK	-0.00794
D9GE	0.01666	D9IT	-0.003281	D9JA	0.000607
D9NE	0.01609	D9UK	0.001453	D9US	0.015392
E1CA	0.007281	E1FK	0.03332	E1GE	0.013288
E1IT	0.019544	E1JA	0.054274	E1NL	0.010131
E1UK	-0.00433	E1US	0.00329	E1UCA	-0.034398
E1UFR	1.58587	E1UGE	-0.036416	E1UIT	0.105504
E1UJA	0.005894	E1UNL	0.033636	E1UOK	1.23133
E1UUS	-0.116645	E11CA	-0.054589	E11FK	-1.02545
E11GL	0.102443	E11IT	-0.126347	E11JA	-0.022105
E11NL	0.004899	E11UK	-0.550499	E11US	0.426361
E12CA	-0.077664	E12FK	4.39695	E12GE	-0.191149
E12IT	0.126007	E12JA	-0.156405	E12NL	0.019509
E12UK	5.57298	E12US	-0.466037	E13CA	-0.041273
E13FK	-3.24907	E13GE	0.084755	E13IT	-0.151000
E13JA	0.284267	E13NL	-0.026792	E13UK	-4.2394
E13US	-0.054576	E14CA	-0.396027	E14FK	0.10534
E14GE	1.628	E14IT	-3.88655	E14JA	1.95052
E14NL	0.403001	E14UK	-0.068485	E15CA	3.68752
E15FR	0.103117	E15GE	0.019635	E15IT	4.10458
E15JA	-0.574234	E15NL	0.700825	E15UK	0.596763
E16CA	0.670052	E16FK	0.106524	E16GE	0.09376
E16IT	1.57536	E16JA	1.03261	E16NE	0.292761
E16UK	0.282168	E17CA	-2.84711	E17FK	-0.132219
E17GE	0.332797	E17IT	-0.686628	E17JA	-2.53005
E17NL	-0.892653	E17UK	-0.521172	E18CA	0.286188
E18FR	0.761771	E18GE	0.625931	E18IT	-0.374264
E18JA	1.71901	E18NE	0.091526	E18UK	0.187571
E19CA	2.14929	E19FK	0.060458	E19GE	0.039871
E19IT	0.810022	E19JA	-1.78208	E19NE	-0.971241
E19UK	-0.204191	E2CA	0.000184	E2FK	-0.000192
E2GE	-8.064001E-05	E2IT	0.000454	E2JA	-1.888251E-05
E2NE	0.000421	E2UK	-6.443714E-07	E2US	0.000243
E2UUS	0.496825	E21US	-0.248602	E3CA	0.10149
E3FK	0.00301	E3GE	0.043045	E3IT	-0.014448
E3JA	-0.021866	E3NE	0.058633	E3UK	0.107434
E3US	0.004036	E4CA	0.138066	E4FR	0.011217
E4GE	-0.014921	E4IT	-0.03104	E4JA	0.031742
E4NE	-0.027174	E4UK	0.163098	E4US	0.001552
E5CA	-0.003532	E5FK	-0.017624	E5GE	-0.0225
E5IT	-0.023132	E5JA	0.026185	E5NE	-0.040335
E5UK	0.02989	E5US	0.033956	E6CA	-0.197234
E6FK	-0.057298	E6GE	0.097666	E6IT	-0.09435
E6JA	-0.564806	E6NE	-0.316001	E6UK	0.07705
E6US	-0.057597	E7CA	0.264871	E7FK	0.574765
E7GE	-0.763707	E7IT	0.037192	E7JA	0.415324
E7NL	0.206985	E7UK	0.024239	E8CA	-0.113296
E8FR	-0.0748	E8GE	-0.343714	E8IT	0.262491
E8JA	-0.226858	E8NE	0.05664	E8UK	0.156708
E8US	-0.286081	E9CA	-0.001604	E9FK	0.28364
E9GE	0.700672	E9IT	-0.129687	E9JA	0.014509
E9NE	0.062226	E9UK	-0.074746	E9CA	0.001373
F0FK	-0.009077	F0GE	-0.004262	F0IT	0.001751
F0JA	-0.008808	F0NE	-0.01574	F0UK	0.016766
F0US	0.000225	F1CA	0.179737	F1FR	0.573409
F1GE	0.822682	F1IT	0.409235	F1JA	0.319091
F1NE	0.28658	F1UK	0.024094	F1CA	-0.053768
F1UFR	-0.099353	F10GE	0.242206	F10IT	0.072819
F10JA	0.124816	F10NE	0.223077	F10UK	-0.002007
F10US	0.616165	F2FK	0.418867	F2CA	-0.245403
F20FR	0.052207	F20GE	0.006946	F20IT	0.176537
F20JA	-0.07173	F20NE	0.09354	F20UK	-0.040341
F20US	0.067515	F3CA	-0.026791	F3FK	-0.001163
F3GE	-0.120761	F30CA	0.279496	F30FR	-0.026652

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F30NE	-0.255302	F30UK	0.740935	F30US	0.15222
F40E	-0.731766	F4JA	-0.66905	F40CA	0.784069
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F40JA	3.84313	F40NE	0.138543	F40LK	0.189963
F40US	2.25319	F50CA	0.270787	F50FR	1.25097
F50GE	1.20028	F50IT	1.31648	F50JA	1.30657
F50NE	0.968503	F50UK	1.28695	F50US	0.153811
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F6IT	-1.85255	F6JA	-2.01446	F6NE	-1.9384
F6UK	-2.2736	F60CA	0.02143	F60FR	0.612717
F6UGE	0.468396	F60IT	-1.1264	F60JA	0.710113
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GUJA	0.045769	G0NE	-0.008552	G0UK	0.013468
GUUS	0.004428	G1CA	-0.000105	G1FR	-9.407155E-05
G1GE	-3.927120E-06	G1IT	0.000155	G1JA	-3.658464E-05
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G11JA	-1.14262	G11NE	-0.687287	G11UK	-0.828963
G11US	0.347438	G12CA	0.16578	G12FR	0.906516
G12GE	0.405291	G12IT	0.361741	G12JA	-0.346612
G12NL	0.363585	G12UK	-0.680074	G12US	-0.480483
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G2IT	0.000184	G2JA	0.031405	G2NE	0.015183
G2UK	-0.046579	G2US	-0.001341	G20CA	0.259146
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G20JA	-0.826017	G20NE	0.983567	G20UK	0.317069
G20US	0.007598	G21CA	0.213911	G21FR	-0.994672
G21GE	0.132577	G21IT	-0.352289	G21JA	-0.091766
G21NL	0.171835	G21UK	-0.576976	G21US	0.034463
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G22UK	0.525568	G22US	0.111434	G3CA	-0.209463
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G3JA	-0.583978	G3NE	-0.679193	G3UK	0.752483
G3US	-0.100705	G30CA	0.04415	G30FR	-0.002254
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G3UNE	-0.086553	G30UK	-0.342353	G30US	-0.003303
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G32JA	0.023627	G32NE	0.04683	G32UK	0.016799
G32US	-0.004193	G4CA	0.399296	G4FR	0.073793
G4GE	0.097097	G4IT	0.071244	G4JA	0.05497
G4NE	0.024806	G4UK	0.444298	G4US	-0.034747
G5CA	0.525327	G5FR	0.332204	G5GE	0.243101
G5IT	0.328725	G5JA	0.064557	G5NE	0.543858
G5UK	-0.927833	G5US	-0.209762	G6CA	0.854509
G6FR	0.184551	G6GE	0.679257	G6IT	0.4522
G6JA	-0.212536	G6NE	0.53443	G6UK	-1.08654
G6US	0.571938	G7CA	0.101733	G7FR	0.060923
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G7NE	0.077908	G7UK	-0.696908	G7US	-0.053545
G8CA	-0.115046	G8FR	0.076835	G8GE	0.516343
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G9JA	0.034766	G9NE	-0.454351	G9UK	0.080414
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H10FR	0.010249	H10GE	0.247567	H10IT	-0.071293
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H12CA	0.113463	H12FR	0.248513	H12GE	0.1238
H12IT	0.05552	H12JA	-0.119308	H12NE	0.500342
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H14FR	-0.021497	H14GE	-0.066495	H14IT	0.055937
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H15CA	0.035674	H15FR	-0.077889	H15GE	-0.326702
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H4US	0.610356	H5CA	0.012595	H5FK	0.01573
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H5NE	0.032386	H5UK	0.014503	H5US	0.072265
H6CA	-0.068748	H6FR	0.011124	H6GE	0.043468
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H7QS	-0.008498	H8CA	0.342569	H8FR	0.234953
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H9CA	0.272154	H9FR	0.250369	H9GE	0.113401
H9IT	0.229865	H9JA	0.123404	H9NE	0.081916
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I0JA	-0.358542	I0NE	-0.570559	I0UK	-0.621571
I0US	-0.104698	I1CA	1.00269	I1FR	4.01
I1GE	1.09201	I1IT	2.3297	I1JA	11.8281
I1NE	1.04947	I1UK	2.04017	I1US	0.661462
I2CA	0.127849	I2FR	0.010317	I2GE	0.032126
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I2UK	0.13774	I2US	0.018057	I3CA	-0.123952
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I3US	0.082842	I4CA	0.179301	I4FR	-0.494583
I4GE	0.014642	I4IT	0.295977	I4JA	-0.531693
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I8CA	0.066109	I8FR	0.018122	I8GE	-0.020847
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J0FF	0.000654	J0GE	0.005948	J0IT	-0.002227
J0JA	0.000194	J0NE	0.001463	J0UK	-0.001317
J1CA	0.280069	J1JA	0.636045	J1LA	0.404612
J2CA	-0.069894	J2FR	-0.026109	J2GL	-0.101694
J2I1	-0.046984	J2NE	-0.028487	J311	-0.030714
J3NE	-0.027252	J3UK	-0.037745	J4GE	-0.092671
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KUIT	0.030647	KUJA	0.066137	KUNE	-0.019439
KUUK	-0.085985	KUDS	-0.118647	KILA	-1.00189
K1FK	0.09518	K1GE	0.084483	K1IT	-70.1123
K1JA	-0.28134	K1NE	0.074312	K1UK	-0.211225
K1US	-1.704	K1UCA	-0.50794	K1UFR	-0.10998
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K11CA	0.43356	K11FR	-0.205692	K11GE	0.54003
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K11UK	0.712146	K11US	-0.011724	K12CA	-0.16197
K12FR	-0.04162	K12GE	21.9658	K12IT	0.196408
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K12US	0.222	K13CA	-0.19053	K13FK	-0.07258
K13GL	28.5363	K13IT	0.182301	K13JA	0.0343
K13NE	-5.78759	K13UK	0.28402	K13US	0.02
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K15JA	0.4259	K15NE	0.5438	K15UK	0.5135
K15US	-0.1317	K2CA	-0.04238	K2FR	0.275907
K2GE	79.9045	K2IT	-0.372853	K2JA	0.14682
K2NE	-0.064781	K2UK	-0.305548	K2US	0.087633
K3CA	0.06676	K3FR	-0.34383	K3GE	-0.02164
K3IT	-10.1092	K3JA	-0.18028	K3NE	-5.04602
K3UK	0.563988	K3US	-0.065193	K4CA	0.06475
K4FR	0.0028	K4GE	0.138669	K4IT	-0.185426
K4JA	-0.02574	K4NE	0.243743	K4UK	0.129087
K4US	-0.055842	K5CA	0.34558	K5FR	0.05509
K5GE	-0.01241	K5IT	0.07162	K5JA	1.33237
K5NL	-0.04987	K5UK	0.02992	K5US	0.140337
K6CA	-0.51519	K6FK	0.216151	K6GL	0.089455
K6IT	-0.004496	K6JA	-2.03841	K6NE	0.106302
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K7FR	0.00344	K7GE	0.01888	K7II	-0.03065
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K7US	0.008	K8CA	-0.0327	K8FK	0.01106
K6GE	0.01352	K8IT	-0.01914	K8JA	0.00436
K8NE	-0.02741	K8LK	-0.028305	K8LS	-0.009
K9CA	0.49477	K9FR	0.11732	K9GE	0.579013
K9IT	-0.15663	K9JA	-0.212914	K9NE	-0.392292
KYUK	0.350697	K9US	0.246549	LUCA	-0.000111
LUFK	0.001753	LUGL	0.001334	L011	-0.000106
LUJA	-0.000313	LUNE	-0.001407	LUUK	0.001221
L1CA	-0.044797	L1FR	-0.736738	L1GE	-0.672213
L1IT	-0.2118	L1JA	-0.579833	L1NE	-0.1362
L1UK	-0.5398	L2CA	33.9022	L2FK	131.55
L2GE	-113.957	L2IT	17.655	L2JA	-409.877
L2NE	10.9493	L2UK	29.8764	L3CA	-0.0089
L3FR	0.6546	L3GE	-0.2109	L3IT	-0.032609
L3JA	0.076104	L3NE	-0.192914	L3UK	0.1369
L4CA	0.510603	L4FR	0.916987	L4GE	0.238757
L4IT	0.570475	L4JA	0.142382	L4NE	0.624358
L4UK	0.564549	L5CA	-1.	L5FK	-0.036492
L5GE	0.0106	L5IT	-1.	L5JA	-0.0779
L5NE	0.024793	L5UK	-0.023716	L6FK	-0.65
L6GE	-0.0086	L6JA	-0.3398	L7FK	-0.35
MUCA	-0.00314	M0FR	0.06315	M0GE	0.00064
MUIT	0.0232	M0JA	0.00323	M0NL	0.02739
MOUK	0.00597	M1CA	0.05103	M1FK	0.13361
M1GL	-0.95133	M1IT	-0.08897	M1JA	-0.03233
M1NE	0.11611	M1UK	0.80037	M2CA	-0.00683
M2FK	-0.06955	M2GE	0.05737	M2IT	-0.029
M2JA	-0.03956	M2NE	-0.07818	M2UK	-0.02808
M3CA	0.07509	M3FR	-1.13931	M3GE	-0.73465
M3IT	0.76727	M3JA	-0.87177	M3NE	-0.66181
M3UK	1.20971	M4CA	-0.30121	M4FK	1.42566
M4GE	2.98731	M4IT	0.1553	M4JA	3.92447
M4NE	-0.10364	M4UK	-2.03867	M5CA	0.18038
M5FR	-3.15593	M5GE	-0.13434	M5IT	-0.35833
M5JA	-0.02198	M5NE	-1.97462	M5UK	-0.98978
M6CA	0.31538	M6FR	-0.39385	M6GE	0.18685
M6IT	0.15115	M6JA	0.20401	M6NE	-0.35613
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XPFK	0.01379	XPGE	0.01143	XPI1	0.01218
XPJA	0.0228	XPNE	0.01161	XPUK	0.0067
Xpus	0.00866	ZPCA	0.025	ZPFK	0.025
ZPGE	0.025	ZPIT	0.025	ZPJA	0.025
ZPNE	0.025	ZPUK	0.025	ZPUS	0.025