OECD Economics Department Working Papers No. 47

A Review of the Simulation Properties of OECD's INTERLINK Model

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https://dx.doi.org/10.1787/686024507858

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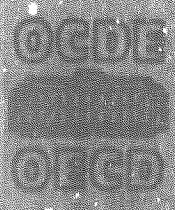
Pete Richardson

Econometric Unit

July 1987



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A REVIEW OF THE SIMULATION PROPERTIES OF OECD'S INTERLINK MODEL

by

Pete Richardson (1)

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1. The author is Head of the Econometric Unit, Economics and Statistics Department. Special thanks go to Douglas Paterson, who provided valuable assistance in running the simulations and preparing the charts and tables, and Rik Ford, who implemented the relevant version of the model and maintained the data bank. Andrew Dean, Mike Feiner, John Martin and Stephen Potter gave valuable comments on an earlier draft.

This paper reviews the simulation properties of a recent version of the OECD Secretariat's international macroeconomic model, INTERLINK, a version which embodies much of the empirical work reported in recent Working Papers and summarised in a separate companion paper ESD Working Paper No. 46. The material presented is intended to provide a general overview of model properties and some of the key mechanisms involved.

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Cet article résume les propriétés en mode simulation d'une version récente du modèle macro-économique international du Secrétariat de l'OCDE, INTERLINK. Cette version incorpore une grande partie des travaux empiriques déjà décrits dans plusieurs documents de travail récents et qui sont également résumés dans le Document de Travail No. 46 du D.A.E.S. La présente note fournit un aperçu général des propriétés du modèle et quelques-uns des enchaînements importants.

A REVIEW OF THE SIMULATION PROPERTIES OF OECD'S INTERLINK MODEL

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A REVIEW OF THE SIMULATION PROPERTIES OF OECD'S INTERLINK MODEL

INTRODUCTION

1. This paper reviews the single- and multi-country simulation properties of a recent version of the Secretariat's international macroeconomic model, INTERLINK (1), a version which embodies much of the empirical work reported in recent ESD Working Papers and summarised in the companion paper Richardson (1987). The material presented is intended to provide a general overview of model properties and some of the key mechanisms involved.

2. The paper consists of two parts. Part I presents and analyses the results of a number of simulations for the single-country sub-models of each of the seven major economies, which are those predominantly affected by recent model revisions. Although these simulations are all to some extent policy-relevant, they are intended to reveal specific analytic features of these models and the mechanisms involved, rather than provide a considered view about the feasibility or likelihood of the various changes in macroeconomic policy or indeed their influence on the real world. The most important objective is to make more transparent the role and importance of individual relationships, empirical results and also policy assumptions to individual model properties. Part II extends the analysis to a multi-country context with a series of internationally linked simulations which examine the role and quantitative importance of international linkage relationships in the model. In doing so it updates and augments much of the material given in earlier Secretariat linkage studies, in particular that of Larsen et al. (1983).

I. SINGLE-COUNTRY MODEL SIMULATION PROPERTIES

3. In reviewing the single-country properties of the seven major economy models the following simulations are considered:

i) Fiscal multipliers under alternative monetary policy assumptions

- a sustained increase in the volume of general government expenditures on non-wage goods and services, equivalent to 1 per cent of baseline real GNP, under alternative monetary policy and exchange rate assumptions;

ii) Monetary conditions and exchange rates

- a sustained 100-basis-points reduction in short-term interest rates, under alternative fixed and floating exchange rate assumptions; and

- a 10 per cent reduction in the effective exchange rate, under alternative monetary and fiscal policy assumptions;

iii) Supply conditions

- a 1 per cent ex-ante reduction in the nominal wage rate; and

- a 10 per cent decrease in world energy prices.

Further details of the specific assumptions involved are given in the following sections which provide for each simulation an outline of the main mechanisms involved, principal features and a comparison of cross-country results. All simulations were carried out over a common five-year period, 1983 to 1987, on the basis of a baseline consistent with the December 1986 OECD Economic Outlook No. 40.

Fiscal Multipliers Under Alternative Monetary Policy Assumptions

4. Analysis of the effects of changes in fiscal policy is concerned not only with the direct effects of different fiscal policy settings but also with the importance of the associated monetary assumptions and their implications for the results, particularly with respect to income multipliers and inflation responses. For this reason the relevant simulations were carried out separately under alternative assumptions of unchanged nominal short-term interest rates and unchanged money supply (in general a broad aggregate) in conjunction with fixed and floating exchange rate regimes (2). The simulated shock is a sustained increase in the volume of government current expenditure on non-wage goods and services, equivalent to 1 per cent of baseline real GNP. Public sector investment expenditure is assumed to be unchanged in real terms throughout, as is government-sector employment. The choice of an increase rather than a decrease in government spending is essentially arbitrary to the discussion of model properties and, for convenience of presentation, discussion here deals only with an increase. Results would be symmetrical -- but with the opposite sign -- in the case of a decrease.

5. The main mechanisms involved in these simulations are largely familiar. Before discussing individual country model results, however, it is useful to outline the ways in which the relevant channels operate in the model, noting in particular the interaction between demand and supply elements, as well as the influence of alternative monetary assumptions. The overall description also provides background information relevant to the shocks considered in later sections. The system is simultaneous, but it is nonetheless reasonably straightforward to trace the main lines of causation.

A. With fixed interest rates and fixed exchange rates

6. With nominal interest rates and exchange rates unchanged, the immediate effect of increased government expenditure is to raise ex ante demand through the standard income-expenditure relationships and, allowing for import

leakages, thereby put upward pressure on output. The extent to which increased demand is met by higher business sector output is determined by the output supply (or more precisely factor utilisation) equation, taking into account also the profitability rate, the desired stock-output ratio and the supply-sector-based level of "normal" output. The latter is defined in the model as the level of output given by the production function at existing levels of the three factor inputs distinguished in the model -- labour, energy and capital -- and to the extent that these may be slow to adjust to an initial demand shock, some combination of a higher rate of factor utilisation and run-down of inventories is likely to occur. For given profitability and costs of holding stocks, the balance between short-term movements in factor utilisation and stocks depends crucially on the elasticity of the factor utilisation rate with respect to the ratio of sales to normal output. The closer this parameter is to unity, the greater the initial output supply adjustment to demand and the smaller the buffer role of stocks. Beyond the first period, additional lagged stock-adjustment terms are also important in determining the rate at which output adjusts to restore normal stock levels. The larger these terms are, the quicker production adjusts to eliminate any short-term stock disequilibrium.

7. For given factor prices and profitability, higher ex ante demand and output raise the demand for factors through the influence of current output on expected future output and hence, for given technologies, the cost-minimizing levels of desired inputs. The adjustment of factor demand towards these desired levels in turn increases aggregate demand directly, in the form of business fixed investment, and indirectly, through the influence of higher employment and factor incomes on disposable income, consumption and housing investment. The model's multiplier-accelerator mechanism is therefore significantly influenced by the characteristics of the business supply sector.

8. Concerning wages, the initial effects of a fiscal shock are those coming through labour market tensions, as employment begins to adjust to a higher desired level and unemployment falls, and for some countries, the influence of short-term improvements in productivity. To the extent that labour supply is endogenous and responds partly to increased demand, the effect of higher employment on the unemployment rate may however be modified by "discouraged worker" and "added worker" effects. In the case of the Japanese country model, the former effect is particularly strong, giving significantly damped unemployment responses to real-side shocks. The additional influence of goods market disequilibrium enters primarily through the effects, on the business non-energy value-added deflator, of movements in output in relation to potential, with the latter adjusting relatively slowly to movements in factor prices. This deflator, in combination with domestic energy prices and import prices, drives the expenditure deflator system and the interaction of what is, in the short-term, a cost-plus price equation and an expectations-augmented Phillips curve then gives further cumulative movements in wages and prices. The form of the wage equations and the relative lags in wage and price responses are generally such that there is some tendancy towards a higher real wage throughout a five-year period, although in the absence of disequilibrium influences a stable but higher real wage and inflation path would emerge.

9. The emergence of higher prices and costs over time has, in turn, a number of important medium-term effects on the real side. In the trade sector, higher domestic prices and costs will, given a fixed exchange rate, reduce domestic competitiveness and, with a lag, reinforce the deterioration

in the real trade and current account balancess. With relative factor prices moving in favour of capital, as real wages rise and expected real interest rates are assumed to fall, there will also be some relative shift from labour to capital emerges and, to the extent that short-term improvements in profitability reflecting improved labour productivity are progressively eroded over the period, output supply and fixed investment reponses may be dampened. The tendency for real wages to rise and real interest rates to fall would, ceteris paribus, tend to raise consumer spending further, but for most countries this effect is offset by the inflation term in the consumption function, representing an implicit wealth effect. The overall presumption, therefore, is that even with fixed nominal interest rates, inflation effects may be sufficiently powerful to erode the GNP multiplier, shifting over time the split of higher nominal demand from real activity to prices.

10. The effects on government balances depend on a combination of factors. In general, higher levels of output, expenditure and employment will tend to raise direct and indirect tax yields whilst reducing transfer payments, offsetting part of the budgetary cost of fiscal stimulus. Inflationary effects, on the other hand, raise the nominal value of both payments and receipts, with the net effect depending on their precise composition, the degree of indexation and the relevant payments lags. The effects of cumulative debt are also important to the model because they determine public sector interest payments. The combination of these elements suggests, in general, some short-run offset to the ex ante costs of higher expenditure as income and employment rise, but with the possibility of some deterioration in the longer run associated with a decrease in the multiplier and the effects of cumulative debt.

11. Dominated by the deterioration of real net exports, the overall effect on the current account balance will be unfavourable, cumulatively so for the investment income balance as the net foreign asset stock is eroded. With unchanged nominal interest rates, the increase in nominal demand is assumed to be fully accommodated, with the level of monetary aggregates determined directly through the demand-for-money functions.

B. With a fixed money supply

12. In the case in which money supply is assumed to be unchanged, the demand-for-money function is renormalised to determine the market clearing short-term interest rate. For given increases in GNP and prices, the extent to which interest rates need to increase to keep money demand at its target level is determined by the relevant income, price and interest rate elasticities (3). Making short-term interest rates endogenous in this fashion has a significant modifying influence on the various responses outlined above. Short- and long-term interest rates are interrelated in the model through the yield curve equation, with the long-term rate adjusting to movements in the short rate, with some small allowance for inflation acceleration and, in the case of the United States, the public deficit to GNP ratio. The relationship is generally of an error-correction form, implying in simulation a one-for-one adjustment of long-term rates to changes in short rates in the long run, although -- with mean lags of two to four years -- the adjustment is assumed to be relatively slow.

13. The effect of a higher short-term rate is therefore to gradually raise the long-term rate, which in turn feeds directly into the cost of capital and related cost and profitability measures in the supply block. Compared with

the fixed nominal interest rate case, the primary effect on supply is to dampen and, in some cases reduce, the cost-minimising and actual levels of the capital stock, and hence business fixed investment. Normal output will therefore tend to be relatively less buoyant and, given a less favourable profitability position, both output supply and the rate of factor utilisation will show smaller increases. A higher price of capital relative to labour would also in the short run imply some substitution towards labour, but in terms of overall response the scale effects coming from lower actual and expected output may tend to dominate, giving smaller increases in employment and thereby in household disposable income. At the same time, higher real interest rates will also reduce the positive response of consumption and housing investment to the fiscal shock. As seen from the later results, the effects of endogenised interest rates on both output supply and consumer behaviour is to give a significant degree of real-side crowding-out over a four- to five-year period. With respect to prices, the direct effects of higher capital costs associated with higher interest rates are likely to be slow to emerge, so that the effects of a smaller increase in output and lesser reduction in unemployment will tend to dominate.

14. The outcome for the government balance is likely to be significantly worse. Smaller improvements in aggregate expenditure, output and employment would tend to limit the improvements to tax revenues and transfer payments whilst higher short- and long-term interest rates will increase interest payments on both new and existing public sector debt. With regard to the current account lower income multipliers and smaller domestic price increases will tend to give a smaller real deterioration in the trade and non-factor services balance. The effect on portfolio investment income flows will depend on the relative composition of assets and liabilities as between domestic and foreign short- and longer-term interest bearing securities. A marginal shift in the investment income balance, however, may be too small to modify significantly the relative improvement in the trade balance.

C. Fixed versus floating exchange rates

15. The influence of floating rather than fixed exchange rates on the effects of a fiscal shock depends crucially on the the associated domestic monetary policy assumption. The exchange-rate system currently incorporated in INTERLINK is, in most respects, identical to that reported in earlier Secretariat work (4). The expected exchange rate is driven by a purchasing-power-parity relationship. The deviation of actual from expected exchange rates is determined by the differentials between domestic and foreign short-term interest rates and by the cumulative stock of net foreign assets.

16. With fixed short-term interest rates, the effect is unambiguous, with both simulated increases in domestic costs and prices and a worse current account putting downward pressure on expected and actual exchange rates. To the extent that trade competitiveness is improved in relative terms, the deterioration in the real trade balance will tend to be smaller than under a fixed exchange rate assumption. Given also an improved profit rate in the short run, actual and expected output responses will be larger, with correspondingly larger scale effects on investment and employment. Higher demand pressure, combined with higher import prices, will in turn lead to significantly higher domestic costs, prices and wages and, given the lagged feedback from prices to expected exchange rates, a cycle of depreciation and cumulative inflationary pressure will tend to build up over the simulation period. The net effect of depreciation on real consumption wages will be

generally negative, and combined with a higher inflation rate, the private consumption response is likely to be somewhat damped relative to those of other expenditure components. Given the relative improvement in the real trade balance and the revaluation of investment income as a result of currency depreciation, the net deterioration of the current balance is likely to be smaller relative to the fixed exchange rate case, but differences may be slow to emerge, depending on the strength of the "J" curve effect and the timing and extent of exchange rate adjustment.

17. With a fixed money supply, the direction of the movement in the nominal exchange rate is ambiguous. Two opposing influences are involved, the relative size of which depends on specific country-model characteristics and which may vary over time. On the one hand, higher prices and the deterioration in the balance of payments will exert downward pressure on the expected and actual rates; on the other, higher domestic interest rates will make domestic assets more attractive and therefore exert upward pressure. Even if the exchange rate depreciates, its level is likely to be higher than that obtained under a fixed interest rate assumption. Considering the main implications of exchange-rate changes here, with an appreciation (depreciation), the price response will tend to be more (less) damped, implying stronger (weaker) real consumption, but a weaker (stronger) real trade balance, at least in the short term. The marginal net effect on real GNP will depend on the balance of these influences. For the balance of payments an appreciation (depreciation) would be expected to result in some marginal deterioration (improvement) in the current account.

D. Summary results

18. The detailed cross-country results for the four basic government expenditure shocks are summarised in Tables 1 to 4. A comparison of the various activity and price responses is given in Figure 1. From these a consistent ranking of multiplier and price responses is shown, with the upper bound for each country model clearly identified with the case of fixed interest rates and a floating exchange rate. The lowest responses are generally those associated with fixed money, but vary marginally between fixed and floating exchange rate cases for individual countries.

19. With fixed interest rates and fixed exchange rates (Table 1), the GDP/GNP multipliers average 1 to 1¼ over most of the period, though in most cases there is a tendancy for these to rise during the first year or so and fall gradually thereafter. The largest short-term multipliers, those for Japan and the United States, reflect in part smaller marginal propensities to import and also above-average consumption and investment responses (5). The German model too has a relatively high short-run multiplier, strongly influenced by its moderate wage and price responses, reflecting a low wage elasticity with respect to the unemployment rate, and correspondingly higher employment effects. The multiplier for France is atypically low in the first year and rises throughout the period. This particular result is related to two specific factors: a relatively low sales elasticity in the output-supply equation, implying a large supply "buffer" effect, with significant destocking in the short-run, and a relatively low stock-adjustment effect thereafter. In the case of the French model, the output-supply equation tends to skew the distribution of output effects over time. On a semi-annual basis, most countries experience destocking in the first semester, but the lagged stock-adjustment is in general sufficiently strong to give a rebound thereafter. The supply equations for both Japan and Canada also have relatively low

Figure 1: COMPARISON OF PRICE AND INCOME RESPONSES FOR FISCAL SHOCK UNDER ALTERNATIVE MONETARY ASSUMPTIONS

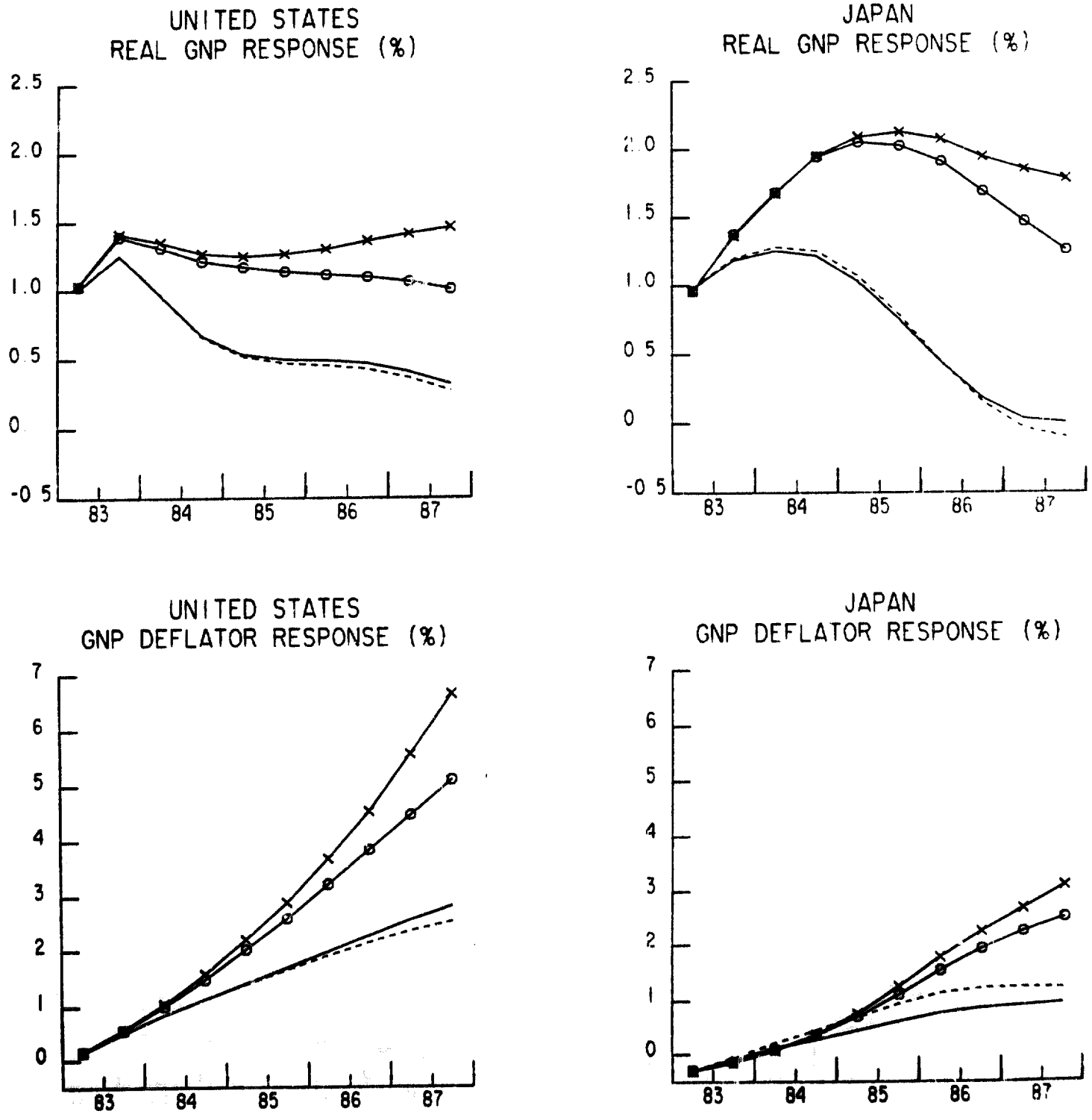
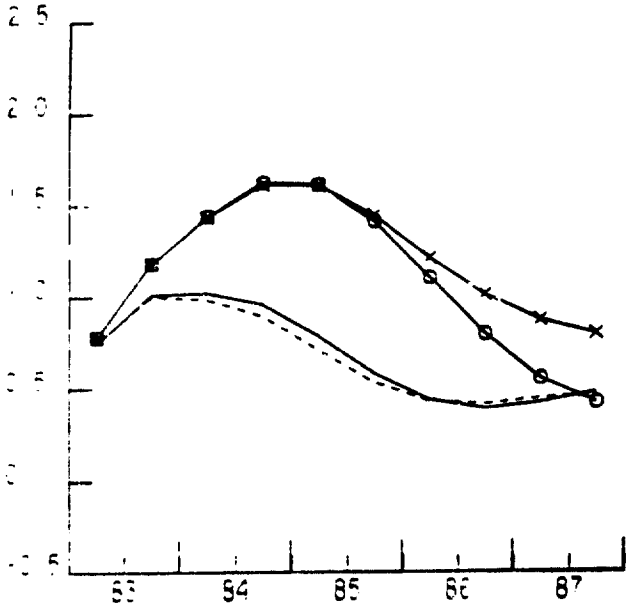
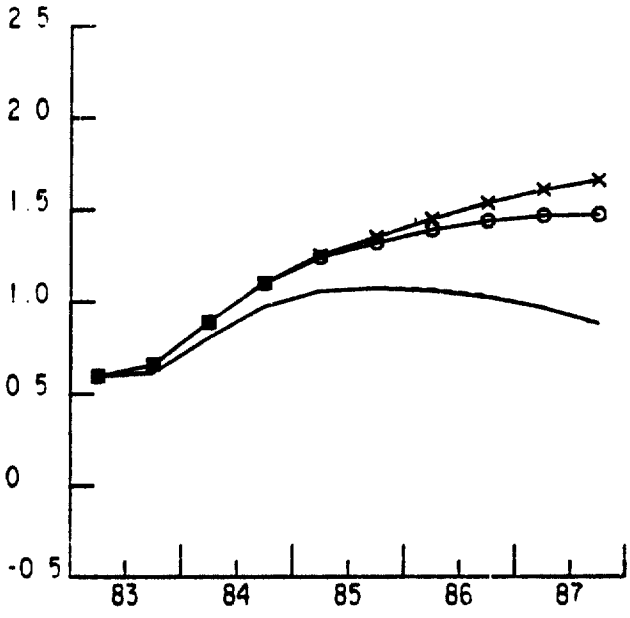


Figure 1 : COMPARISON OF PRICE AND INCOME RESPONSES FOR FISCAL SHOCK UNDER ALTERNATIVE MONETARY ASSUMPTIONS (cont.)

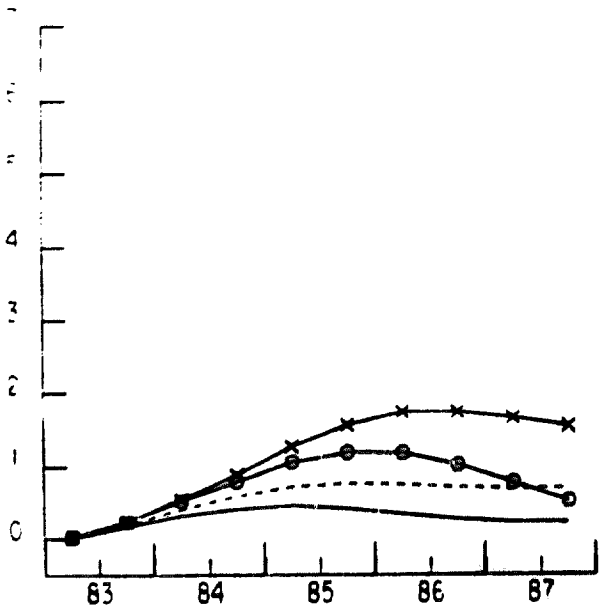
GERMANY
REAL GNP RESPONSE (%)



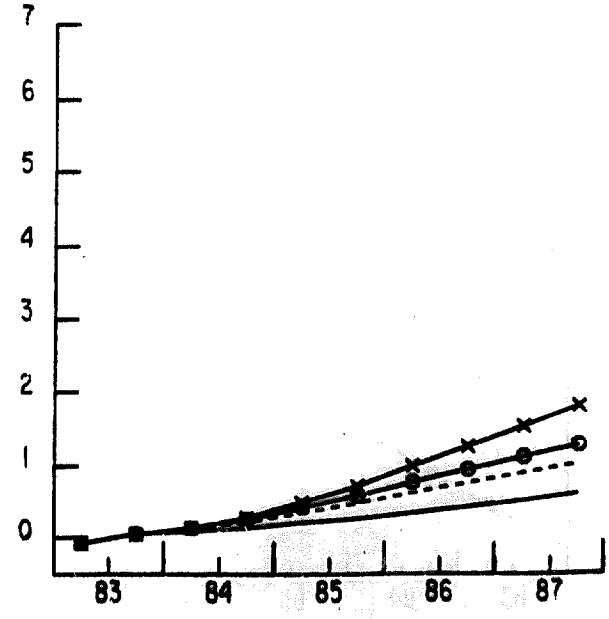
FRANCE
REAL GDP RESPONSE (%)



GERMANY
GNP DEFLATOR RESPONSE (%)



FRANCE
GDP DEFLATOR RESPONSE (%)



FIXED MONEY SUPPLY, FLOATING EXCHANGE RATE
FIXED MONEY SUPPLY, FIXED EXCHANGE RATE
FIXED INTEREST RATE, FLOATING EXCHANGE RATE
FIXED INTEREST RATE, FIXED EXCHANGE RATE

Figure 1 : COMPARISON OF PRICE AND INCOME RESPONSES FOR FISCAL SHOCK UNDER ALTERNATIVE MONETARY ASSUMPTIONS (cont.)

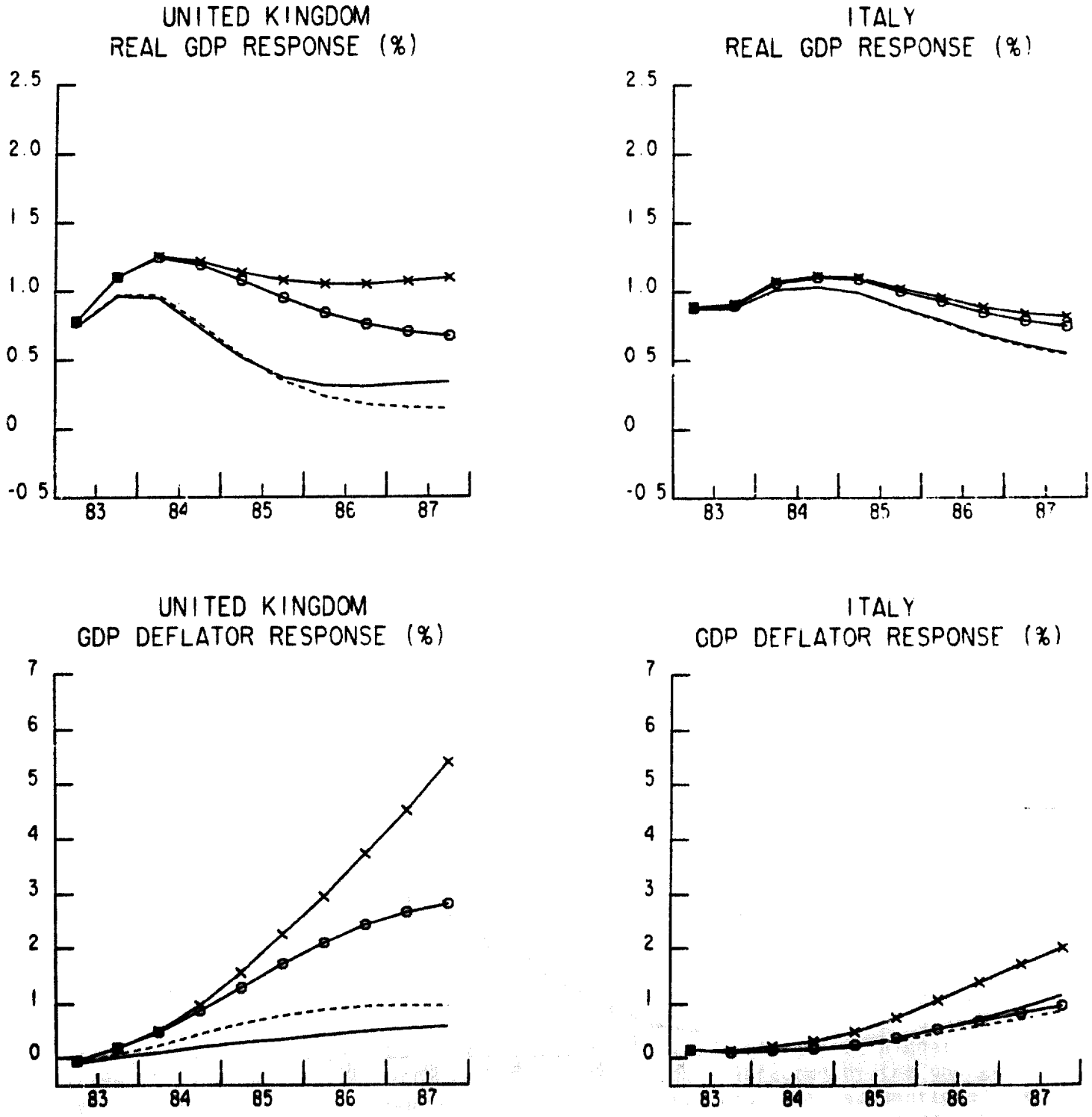
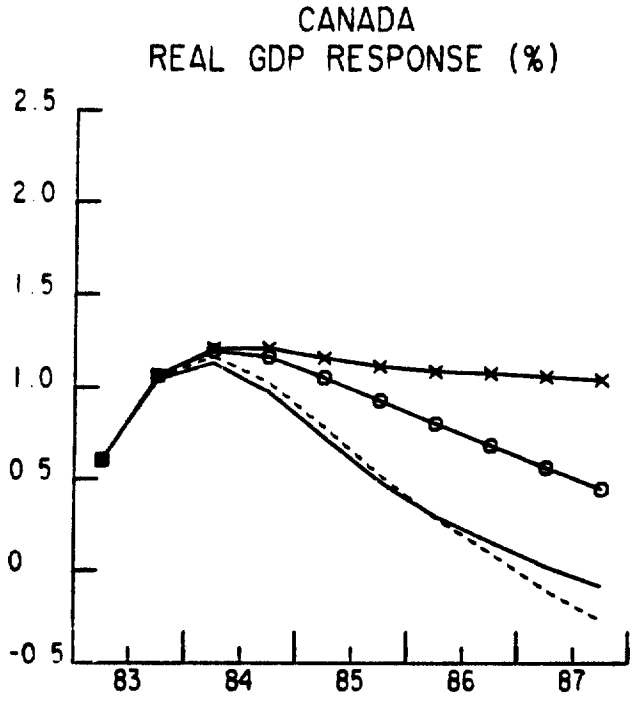
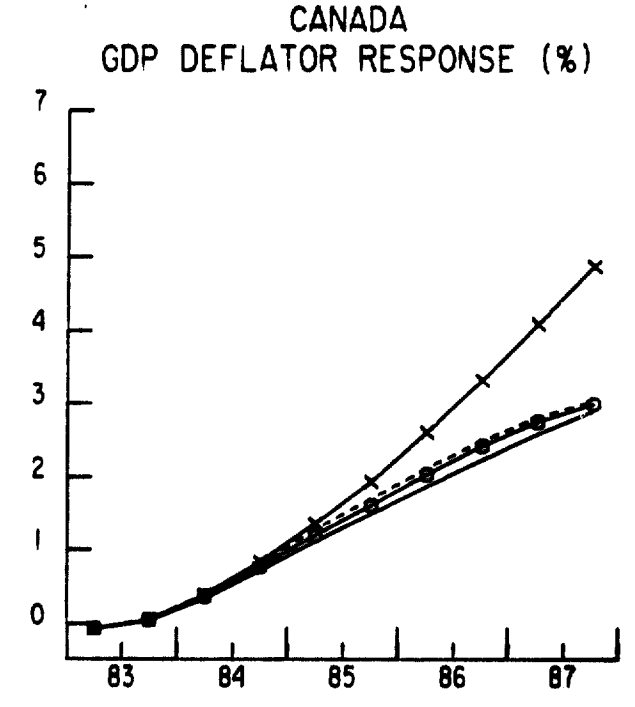


Figure 1 : COMPARISON OF PRICE AND INCOME RESPONSES FOR FISCAL SHOCK UNDER ALTERNATIVE MONETARY ASSUMPTIONS (cont.)





FIXED MONEY SUPPLY, FLOATING EXCHANGE RATE
FIXED MONEY SUPPLY, FIXED EXCHANGE RATE
FIXED INTEREST RATE, FLOATING EXCHANGE RATE
FIXED INTEREST RATE, FIXED EXCHANGE RATE

short-term sales elasticities and experience significant destocking in the first semester. For Japan, this is offset by a particularly large stock-adjustment term. For Canada, a lagged sales term comes into effect in the second semester.

20. In terms of wage and price responses, the largest effects are those for the United States, reflecting inter alia the relatively high GNP multiplier, a relatively fast employment-output adjustment and an above-average wage elasticity with respect to the unemployment rate. The failure of inflation to choke off demand more quickly in part reflects a comparatively small consumption response to inflation. Thus, although the U.S. employment response is damped by a markedly higher real wage, real consumption stays on a rising path over the period. With fixed interest rates, the main source of crowding-out in the U.S. case occurs through competitiveness effects working slowly through net exports.

21. Given both a large and rapid employment adjustment and also a relatively high wage elasticity with respect to unemployment, the Canadian model too has above-average wage and price responses, but over time these feed back fairly strongly onto employment (which drops below baseline in the fifth year), consumption and investment. This is also the case for the United Kingdom, although the "hysteresis" form of its wage equation heavily discounts the effect of reduced unemployment over time. The lowest overall price response is that for Italy, where both employment and price-cost adjustments are relatively slow in the model. For all seven countries there is some tendency towards a higher real consumption wage, notably so for the United States and Japan. For Germany, however, the real wage also reflects the cyclical influences on labour productivity growth. Thus the real wage response is strong at the beginning, but weakens at a later stage, when output is being distributed among an increased number of employees.

22. The overall effects on money demand vary according to the combination of demand elasticities and the extent of real income and price level changes. With the exception of Germany, where disinflationary pressure sets in towards the end of the period, money supply movements are generally monotonic. The largest effects are those for Japan -- with a high GNP multiplier and high money/income elasticity -- and the United States -- with the largest inflation response.

23. The degree of interest rate induced crowding-out obtained with a fixed money supply can be judged by comparison of Tables 1 and 2. For all countries, GNP multipliers are seen to be significantly reduced beyond the first year, with near to full crowding-out for Japan, Canada and the United Kingdom by the fifth year. Averaged over the seven countries, the GNP multiplier reaches a peak of 1.0 in the second year, falling evenly thereafter to 0.3 in the fifth year. Given higher capital costs and real interest rates, the largest changes in the first two years are for private fixed investment and stock building. For a number of countries, the employment effect remains relatively stable in the short term, but falls over time as lower scale effects fail progressively to compensate for the effects of higher labour costs. The multiplier effects for Italy are least affected by the change in the monetary policy assumption. Under fixed interest rate assumptions, the Italian model tended to experience the lowest money demand responses which, combined with the highest overall money semi-elasticity with respect to interest rates, give the smallest relative movements in interest rates. By the fifth year, the highest multiplier is that for France, at 0.9, although

Table 1: GOVERNMENT EXPENDITURE INCREASE WITH FIXED INTEREST RATES AND EXCHANGE RATES

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR	% differences from baseline							MEAN
GDP/GNP REAL	83	1.2	1.2	1.0	0.6	0.9	0.9	0.8	1.0
	84	1.3	1.8	1.5	1.0	1.2	1.1	1.2	1.3
	85	1.1	2.0	1.5	1.3	1.0	1.0	1.0	1.3
	86	1.1	1.8	0.9	1.4	0.8	0.9	0.7	1.1
	87	1.0	1.4	0.5	1.5	0.7	0.8	0.5	0.9
PRIVATE CONSUMPTION REAL	83	0.3	0.5	0.4	0.1	0.3	0.1	0.3	0.3
	84	0.5	1.0	0.7	0.2	0.6	0.3	0.5	0.5
	85	0.5	1.3	0.7	0.2	0.7	0.3	0.4	0.6
	86	0.6	1.3	0.5	0.3	0.7	0.3	0.3	0.6
	87	0.7	1.1	0.5	0.4	0.7	0.2	0.2	0.6
TOTAL PRIVATE INVESTMENT	83	1.5	1.5	1.2	1.0	1.2	1.8	0.4	1.2
	84	2.0	2.9	2.4	2.2	2.5	2.2	1.5	2.2
	85	2.3	3.3	2.8	3.2	2.5	2.1	2.2	2.6
	86	3.0	3.0	2.0	3.8	2.4	1.8	2.6	2.7
	87	3.6	2.2	0.7	4.1	2.3	1.6	2.5	2.4
STOCKBUILDING (1)	83	0.2	-0.2	-0.0	-0.3	0.1	-0.0	-0.1	-0.0
	84	0.1	-0.0	0.4	-0.0	0.2	0.1	0.2	0.1
	85	0.0	0.1	0.4	0.1	-0.0	0.1	0.1	0.1
	86	0.0	0.1	0.1	0.2	-0.1	0.0	0.0	0.0
	87	-0.0	0.1	-0.2	0.3	-0.1	-0.0	-0.0	0.0
REAL FOREIGN BALANCE (1)	83	-0.4	-0.2	-0.4	-0.3	-0.5	-0.4	-0.3	-0.4
	84	-0.5	-0.4	-0.7	-0.4	-0.7	-0.4	-0.6	-0.5
	85	-0.6	-0.5	-0.8	-0.6	-0.7	-0.5	-0.7	-0.6
	86	-0.8	-0.7	-0.8	-0.7	-0.8	-0.5	-0.9	-0.8
	87	-1.1	-0.9	-0.7	-0.9	-1.0	-0.6	-1.1	-0.9
GDP/GNP DEFLATOR	83	0.3	-0.2	0.1	-0.0	0.1	0.1	-0.0	0.1
	84	1.2	0.2	0.7	0.2	0.7	0.1	0.6	0.5
	85	2.3	0.9	1.1	0.5	1.5	0.3	1.4	1.1
	86	3.5	1.7	1.1	0.9	2.3	0.6	2.2	1.8
	87	4.8	2.4	0.6	1.2	2.7	0.9	2.9	2.2
WAGE RATE	83	0.6	0.3	0.4	0.0	0.1	0.2	0.2	0.3
	84	1.7	1.1	1.0	0.3	0.7	0.5	0.9	0.9
	85	2.9	2.0	1.2	0.6	1.7	0.8	1.8	1.6
	86	4.5	2.8	0.8	1.0	2.5	1.3	2.8	2.2
	87	6.0	3.2	0.2	1.4	3.0	1.7	3.4	2.7
TOTAL EMPLOYMENT	83	0.5	0.2	0.3	0.1	0.3	0.1	0.4	0.3
	84	0.8	0.3	0.9	0.3	0.7	0.2	0.9	0.6
	85	0.7	0.4	1.3	0.4	0.8	0.2	0.6	0.6
	86	0.5	0.4	1.4	0.5	0.7	0.2	0.2	0.6
	87	0.4	0.4	1.2	0.6	0.6	0.2	-0.1	0.5
UNEMPLOYMENT RATE (2)	83	-0.5	-0.0	-0.3	-0.1	-0.2	-0.1	-0.3	-0.2
	84	-0.7	-0.1	-0.7	-0.2	-0.6	-0.2	-0.7	-0.4
	85	-0.6	-0.1	-1.1	-0.3	-0.7	-0.2	-0.5	-0.5
	86	-0.5	-0.1	-1.2	-0.3	-0.6	-0.2	-0.2	-0.4
	87	-0.4	-0.1	-1.0	-0.4	-0.5	-0.2	0.0	-0.4
EXCHANGE RATE (effective)	83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MONEY SUPPLY - BROAD	83	0.3	0.3	0.4	0.1	0.2	0.3	0.2	0.3
	84	1.2	1.7	1.5	0.6	0.9	0.7	1.2	1.1
	85	2.0	3.3	2.6	1.1	1.5	1.1	2.2	2.0
	86	3.1	4.4	2.8	1.6	2.1	1.6	3.1	2.7
	87	4.2	4.9	2.2	2.0	2.5	2.0	3.7	3.1
GOVERNMENT FINANCIAL BALANCE (3)	83	-0.7	-0.9	-0.8	-1.2	-0.9	-1.3	-0.9	-1.0
	84	-0.5	-0.8	-0.5	-1.4	-0.8	-1.5	-0.7	-0.9
	85	-0.5	-0.7	-0.3	-1.5	-0.7	-1.7	-0.8	-0.9
	86	-0.5	-0.6	-0.4	-1.4	-0.9	-1.9	-0.9	-1.0
	87	-0.6	-0.7	-0.6	-1.5	-1.2	-2.1	-1.1	-1.1
CURRENT BALANCE (U.S.$ billion) (2)	83	-12.7	-2.4	-2.8	-1.8	-2.4	-1.6	-0.9	-3.5
	84	-17.3	-3.8	-4.2	-2.6	-3.4	-2.1	-1.9	-5.0
	85	-20.2	-4.9	-4.7	-3.4	-3.5	-2.5	-2.5	-5.9
	86	-25.8	-6.4	-5.5	-5.0	-4.4	-2.7	-3.2	-7.6
	87	-33.6	-8.8	-5.9	-6.3	-5.5	-3.2	-4.2	-9.6

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 2: GOVERNMENT EXPENDITURE INCREASE WITH FIXED MONEY SUPPLY AND FIXED EXCHANGE RATES

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR				% differences from baseline				MEAN
GDP/GNP REAL :	83	1.1	1.1	0.9	0.6	0.9	0.9	0.8	0.9
	84	0.8	1.3	0.9	0.9	0.9	1.0	1.1	1.0
	85	0.5	0.9	0.6	1.1	0.4	0.9	0.6	0.7
	86	0.4	0.3	0.4	1.0	0.2	0.7	0.2	0.5
	87	0.3	-0.1	0.5	0.9	0.1	0.6	-0.2	0.3
PRIVATE CONSUMPTION REAL :	83	0.3	0.4	0.3	0.1	0.2	0.1	0.3	0.2
	84	0.4	0.6	0.3	0.2	0.2	0.3	0.4	0.3
	85	0.3	0.4	0.2	0.2	0.1	0.3	0.1	0.2
	86	0.4	0.2	0.2	0.3	0.1	0.2	-0.2	0.1
	87	0.5	0.0	0.3	0.3	0.1	0.2	-0.5	0.1
TOTAL PRIVATE INVESTMENT :	83	1.0	1.2	0.9	0.9	0.7	1.7	0.4	1.0
	84	-0.2	0.9	1.0	1.7	0.4	1.7	1.2	1.0
	85	-0.8	-0.7	0.6	2.1	-1.1	1.1	1.4	0.4
	86	-0.7	-2.3	0.1	1.8	-2.5	0.3	1.0	-0.3
	87	-1.0	-3.0	-0.1	1.1	-3.3	-0.4	0.2	-0.9
STOCKBUILDING (1) :	83	0.1	-0.2	-0.1	-0.3	0.1	-0.0	-0.1	-0.1
	84	0.0	0.0	0.1	-0.1	0.2	0.1	0.2	0.1
	85	-0.1	0.1	-0.1	0.1	-0.1	0.0	-0.1	-0.0
	86	-0.1	0.1	-0.2	0.1	-0.1	-0.0	-0.3	-0.1
	87	-0.1	-0.0	-0.1	0.2	-0.0	-0.0	-0.3	-0.1
REAL FOREIGN BALANCE (1) :	83	-0.3	-0.2	-0.4	-0.3	-0.5	-0.4	-0.3	-0.3
	84	-0.4	-0.3	-0.5	-0.4	-0.5	-0.4	-0.6	-0.4
	85	-0.5	-0.3	-0.5	-0.5	-0.4	-0.4	-0.6	-0.4
	86	-0.6	-0.3	-0.5	-0.6	-0.3	-0.4	-0.6	-0.5
	87	-0.8	-0.4	-0.6	-0.6	-0.4	-0.5	-0.7	-0.6
GDP/GNP DEFLATOR :	83	0.3	-0.2	0.1	-0.0	-0.0	0.1	-0.0	0.0
	84	1.0	0.3	0.5	0.2	0.3	0.1	0.6	0.4
	85	1.5	0.8	0.8	0.4	0.7	0.3	1.5	0.9
	86	2.0	1.2	0.7	0.7	0.9	0.5	2.3	1.2
	87	2.4	1.2	0.7	1.0	1.0	0.8	2.9	1.4
WAGE RATE :	83	0.6	0.3	0.4	0.0	0.1	0.2	0.2	0.3
	84	1.3	1.0	0.8	0.2	0.5	0.5	1.0	0.7
	85	2.0	1.4	0.8	0.5	1.0	0.8	1.9	1.2
	86	2.6	1.5	0.7	0.9	1.3	1.2	2.9	1.6
	87	3.2	1.4	0.8	1.2	1.3	1.6	3.5	1.9
TOTAL EMPLOYMENT :	83	0.5	0.2	0.2	0.1	0.3	0.1	0.5	0.3
	84	0.5	0.2	0.4	0.3	0.6	0.2	0.9	0.4
	85	0.2	0.2	0.3	0.4	0.6	0.2	0.6	0.4
	86	0.1	0.1	0.2	0.5	0.4	0.2	0.1	0.2
	87	-0.0	0.1	0.1	0.5	0.3	0.2	-0.2	0.1
UNEMPLOYMENT RATE (2) :	83	-0.4	-0.0	-0.2	-0.1	-0.2	-0.1	-0.3	-0.2
	84	-0.5	-0.0	-0.3	-0.2	-0.5	-0.2	-0.7	-0.3
	85	-0.2	-0.0	-0.3	-0.2	-0.5	-0.2	-0.5	-0.3
	86	-0.1	-0.0	-0.2	-0.3	-0.4	-0.2	-0.2	-0.2
	87	-0.0	-0.0	-0.1	-0.3	-0.3	-0.2	-0.0	-0.1
EXCHANGE RATE (effective) :	83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORT-TERM INTEREST RATE (2) :	83	0.6	0.7	0.9	0.5	0.9	0.3	0.4	0.6
	84	1.0	2.1	1.8	1.2	1.7	0.3	1.8	1.4
	85	1.1	2.2	1.4	1.9	1.8	0.4	2.2	1.6
	86	1.3	1.6	0.8	2.3	1.7	0.5	2.3	1.5
	87	1.4	0.9	0.8	2.5	1.7	0.5	2.1	1.4
GOVERNMENT FINANCIAL BALANCE (3) :	83	-0.8	-1.0	-0.9	-1.3	-1.0	-1.4	-0.9	-1.0
	84	-0.8	-1.1	-0.9	-1.6	-1.1	-1.7	-1.2	-1.2
	85	-1.1	-1.2	-1.0	-2.0	-1.4	-2.1	-1.6	-1.5
	86	-1.4	-1.4	-1.2	-2.3	-1.9	-2.5	-1.3	-1.8
	87	-1.6	-1.6	-1.4	-2.7	-2.3	-2.8	-2.8	-2.2
CURRENT BALANCE (U.S.$ billion) (2) :	83	-11.3	-2.3	-2.6	-1.7	-2.4	-1.6	-0.9	-3.3
	84	-13.8	-2.5	-3.0	-2.4	-1.9	-2.0	-1.9	-4.1
	85	-15.5	-1.3	-3.7	-3.1	-2.4	-2.1	-2.1	-4.3
	86	-20.2	-1.9	-3.6	-4.2	-3.7	-2.4	-2.5	-5.3
	87	-25.6	-2.5	-4.9	-5.0	-3.3	-2.6	-3.2	-6.8

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

interest rates do rise substantially given the relatively buoyant nominal income response and the lowest overall money demand semi-elasticity with respect to interest rates. Compared with the results of Table 1, the degree of crowding-out in the French model is fairly substantial, but the general upward profile of the GNP multiplier obtained with fixed interest rates (a fifth-year multiplier of 1.5) and the absence of quantitatively significant inflation and interest rate terms in the consumption function, imply a much slower process than for the other major economy models.

24. Consistent with lower output and unemployment responses, both wage and price responses are generally smaller. For the United States, the United Kingdom and Japan, the reductions are substantial, with the impact on wage and price levels approximately halved by the fifth year. For Germany, there is a general smoothing of the wage response, with a more even GNP profile giving a less abrupt employment response and removing the pronounced productivity cycle. With a fixed exchange rate, the wage and price profiles for Canada are invariant to the monetary assumption, with relatively quick substitution from investment to employment almost exactly offsetting the influence of a lower output response, leaving the unemployment rate more or less unaffected.

25. Given substantially lower demand and reduced domestic costs, the outcome for the current balance is marginally improved in the case of fixed money growth and for the government account, the effects of lower activity and higher interest rates are very substantial. With the exception of Italy, where interest rates move by relatively small amounts, the deterioration in the government financial balance is approximately doubled within two to three years. For all countries, the overall budgetary cost is significantly greater than the ex ante change in nominal government expenditure beyond the second year.

26. The corresponding results obtained with floating exchange rates are summarised in Tables 3 and 4. Comparing the fixed interest rates cases (Tables 1 and 3), the broad conclusions of paragraph 16 are confirmed. The combination of higher wage and price levels and the deterioration of the current account exerts significant downward pressure on the effective exchange rate, curtailing the effects of cumulatively adverse movements in domestic wage and price competitiveness on the real trade balance, but adding cumulatively to the deterioration in wages and prices. Generally speaking, the composition of expenditure shows a relative shift from consumption to investment, reflecting the effects of higher prices and a lower real cost of capital. For GNP, the general effect is to maintain or support the overall multiplier at or around the third year level. The exception is for Germany, where the former sharp decline in the multiplier is only partially offset.

27. In this case, the extent of the simulated depreciation is largely conditioned by both the relative movements in prices and the relative influence and speeds of adjustment of domestic prices with respect to import costs. Thus, the countries showing the largest depreciations over the period include those with the largest domestic price movements in Table 1 -- the United States, the United Kingdom and Canada. For Japan, the original price movement is also large, but the effects of higher import prices on domestic costs are relatively slow to emerge, whereas for Germany the converse is the case. With fixed interest rates, currency depreciation tends to switch relative factor prices in favour of capital. In general, though, the scale effect of higher expected output and relative improvement in domestic profitability is sufficient to give higher employment and investment responses, notably towards the end of the period.

Table 3: GOVERNMENT EXPENDITURE INCREASE WITH FIXED INTEREST RATES AND FLOATING EXCHANGE RATES

COUNTRY	YEAR	USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE MEAN
		% differences from baseline							
GDP/GNP REAL	83	1.2	1.2	1.0	0.6	0.9	0.9	0.8	1.0
	84	1.3	1.8	1.5	1.0	1.2	1.1	1.2	1.3
	85	1.3	2.1	1.5	1.3	1.1	1.1	1.1	1.4
	86	1.3	2.0	1.1	1.5	1.0	0.9	1.1	1.3
	87	1.4	1.8	0.8	1.6	1.1	0.8	1.0	1.2
PRIVATE CONSUMPTION REAL	83	0.3	0.5	0.4	0.1	0.3	0.1	0.3	0.3
	84	0.5	1.0	0.6	0.1	0.5	0.3	0.5	0.5
	85	0.4	1.2	0.5	0.2	0.5	0.2	0.3	0.5
	86	0.4	1.2	0.3	0.2	0.5	0.1	0.1	0.4
	87	0.4	1.2	0.4	0.3	0.4	-0.0	-0.1	0.3
TOTAL PRIVATE INVESTMENT	83	1.6	1.5	1.2	1.0	1.2	1.8	0.4	1.2
	84	2.0	2.9	2.3	2.1	2.5	2.2	1.5	2.2
	85	2.4	3.3	2.9	3.2	2.5	2.1	2.4	2.7
	86	3.3	3.2	2.3	3.9	2.7	2.0	3.0	2.9
	87	4.2	2.9	1.4	4.5	3.1	2.1	3.4	3.1
STOCKBUILDING (1)	83	0.2	-0.2	-0.0	-0.3	0.1	-0.0	-0.1	-0.0
	84	0.2	-0.0	0.4	-0.1	0.2	0.1	0.2	0.1
	85	0.1	0.1	0.4	0.1	0.0	0.1	0.1	0.1
	86	0.0	0.0	0.1	0.2	-0.1	0.0	0.0	0.0
	87	0.0	0.0	-0.1	0.3	-0.0	-0.0	0.0	0.0
REAL FOREIGN BALANCE (1)	83	-0.4	-0.2	-0.4	-0.3	-0.5	-0.3	-0.3	-0.4
	84	-0.5	-0.4	-0.6	-0.4	-0.7	-0.4	-0.6	-0.5
	85	-0.5	-0.4	-0.7	-0.5	-0.6	-0.4	-0.6	-0.5
	86	-0.6	-0.5	-0.6	-0.6	-0.6	-0.4	-0.5	-0.5
	87	-0.6	-0.6	-0.6	-0.6	-0.6	-0.4	-0.5	-0.5
GDP/GNP DEFLATOR	83	0.3	-0.2	0.1	-0.0	0.1	0.1	-0.0	0.1
	84	1.3	0.2	0.7	0.2	0.7	0.3	0.6	0.6
	85	2.5	1.0	1.4	0.6	1.9	0.6	1.6	1.4
	86	4.1	2.0	1.7	1.1	3.3	1.2	3.0	2.4
	87	6.1	2.9	1.6	1.7	5.0	1.8	4.5	3.4
WAGE RATE	83	0.6	0.3	0.4	0.0	0.1	0.2	0.2	0.3
	84	1.7	1.1	1.1	0.3	0.8	0.6	0.9	0.9
	85	3.2	2.1	1.6	0.7	2.1	1.2	2.0	1.8
	86	5.1	3.1	1.5	1.3	3.6	2.0	3.5	2.9
	87	7.4	4.0	1.3	1.9	5.1	2.7	5.0	3.9
TOTAL EMPLOYMENT	83	0.5	0.2	0.3	0.1	0.3	0.1	0.4	0.3
	84	0.8	0.3	0.8	0.3	0.7	0.2	0.9	0.6
	85	0.7	0.4	1.3	0.4	0.9	0.2	0.8	0.7
	86	0.7	0.5	1.4	0.5	0.9	0.2	0.6	0.7
	87	0.7	0.5	1.3	0.6	0.8	0.2	0.4	0.7
UNEMPLOYMENT RATE (2)	83	-0.5	-0.0	-0.2	-0.1	-0.2	-0.1	-0.3	-0.2
	84	-0.7	-0.1	-0.7	-0.2	-0.6	-0.2	-0.7	-0.5
	85	-0.7	-0.1	-1.1	-0.3	-0.7	-0.2	-0.6	-0.5
	86	-0.6	-0.1	-1.2	-0.3	-0.7	-0.2	-0.5	-0.5
	87	-0.7	-0.1	-1.1	-0.4	-0.7	-0.2	-0.3	-0.5
EXCHANGE RATE (effective)	83	-0.3	0.2	-0.1	-0.0	-0.1	-0.2	0.0	-0.1
	84	-1.2	-0.3	-0.7	-0.3	-0.8	-0.4	-0.6	-0.6
	85	-2.4	-1.3	-1.4	-0.8	-2.2	-0.9	-1.8	-1.5
	86	-4.7	-1.9	-1.5	-1.3	-3.7	-1.4	-3.3	-2.5
	87	-6.8	-2.8	-1.4	-1.9	-5.6	-2.0	-4.8	-3.6
MONEY SUPPLY - BROAD	83	0.3	0.3	0.4	0.1	0.2	0.3	0.2	0.3
	84	1.2	1.7	1.6	0.6	0.9	0.8	1.2	1.1
	85	2.2	3.4	2.9	1.2	1.7	1.4	2.5	2.2
	86	3.4	4.9	3.5	1.9	2.6	2.2	4.0	3.2
	87	5.0	5.7	3.3	2.6	3.7	3.1	5.7	4.2
GOVERNMENT FINANCIAL BALANCE (3)	83	-0.7	-0.9	-0.8	-1.2	-0.9	-1.3	-0.9	-1.0
	84	-0.5	-0.8	-0.5	-1.4	-0.8	-1.5	-0.7	-0.9
	85	-0.5	-0.7	-0.3	-1.5	-0.7	-1.7	-0.7	-0.9
	86	-0.4	-0.6	-0.3	-1.5	-0.9	-1.9	-0.7	-0.9
	87	-0.4	-0.6	-0.4	-1.5	-1.0	-2.1	-0.7	-0.9
CURRENT BALANCE (U.S.$ billion) (2)	83	-12.8	-2.4	-2.9	-1.8	-2.5	-1.6	-0.9	-3.6
	84	-17.1	-4.1	-4.5	-2.6	-3.4	-2.1	-1.9	-5.1
	85	-18.1	-5.0	-4.9	-3.4	-3.2	-2.2	-2.0	-5.5
	86	-20.2	-5.6	-5.0	-4.5	-3.5	-2.5	-2.0	-6.2
	87	-22.7	-7.3	-5.1	-5.6	-3.6	-2.7	-2.1	-7.0

1. % of baseline real GDP/GNP
2. Level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 4: GOVERNMENT EXPENDITURE INCREASE WITH FIXED MONEY SUPPLY AND FLOATING EXCHANGE RATES

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE MEAN
	YEAR	% differences from baseline							
GDP/GNP REAL :	83	1.1	1.1	0.9	0.6	0.9	0.9	0.8	0.9
	84	0.8	1.2	1.0	0.9	0.8	1.0	1.1	1.0
	85	0.5	0.9	0.7	1.1	0.4	0.9	0.6	0.7
	86	0.5	0.3	0.4	1.0	0.3	0.7	0.2	0.5
	87	0.4	0.0	0.5	0.9	0.3	0.6	-0.0	0.4
PRIVATE CONSUMPTION REAL :	83	0.3	0.4	0.3	0.1	0.2	0.1	0.3	0.2
	84	0.4	0.7	0.4	0.2	0.3	0.3	0.5	0.4
	85	0.3	0.6	0.4	0.3	0.3	0.3	0.2	0.3
	86	0.4	0.3	0.3	0.4	0.3	0.2	-0.1	0.2
	87	0.4	0.2	0.4	0.4	0.3	0.1	-0.4	0.2
TOTAL PRIVATE INVESTMENT :	83	1.0	1.2	0.9	0.9	0.7	1.7	0.4	1.0
	84	-0.2	1.0	1.1	1.7	0.6	1.7	1.2	1.0
	85	-0.8	-0.5	0.8	2.2	-0.7	1.1	1.4	0.5
	86	-0.7	-1.9	0.2	2.0	-1.8	.3	1.0	-0.1
	87	-1.1	-2.5	-0.1	1.3	-2.3	-0.4	0.3	-0.7
STOCKBUILDING (1) :	83	0.1	-0.2	-0.0	-0.3	0.1	-0.0	-0.1	-0.1
	84	0.0	0.0	0.1	-0.1	0.2	0.1	0.2	0.1
	85	-0.1	0.1	-0.0	0.1	-0.1	0.0	-0.1	0.0
	86	-0.1	0.0	-0.2	0.2	-0.1	-0.0	-0.2	-0.1
	87	-0.1	-0.0	-0.1	0.2	-0.0	-0.0	-0.3	-0.1
REAL FOREIGN BALANCE (1) :	83	-0.3	-0.2	-0.4	-0.3	-0.5	-0.4	-0.3	-0.4
	84	-0.4	-0.4	-0.6	-0.5	-0.6	-0.4	-0.6	-0.5
	85	-0.5	-0.5	-0.6	-0.6	-0.5	-0.4	-0.7	-0.5
	86	-0.6	-0.5	-0.6	-0.7	-0.5	-0.4	-0.6	-0.6
	87	-0.6	-0.4	-0.7	-0.8	-0.5	-0.4	-0.6	-0.6
GDP/GNP DEFLATOR :	83	0.3	-0.2	0.1	-0.0	-0.0	0.1	-0.0	0.0
	84	1.0	0.2	0.4	0.1	0.1	0.1	0.5	0.3
	85	1.5	0.5	0.4	0.2	0.3	0.3	1.3	0.7
	86	2.1	0.8	0.3	0.4	0.4	0.6	2.0	1.0
	87	2.7	0.9	0.2	0.6	0.5	1.0	2.7	1.2
WAGE RATE :	83	0.6	0.3	0.4	0.0	0.0	0.2	0.2	0.2
	84	1.3	0.8	0.6	0.2	0.3	0.5	0.9	0.7
	85	2.0	1.1	0.5	0.3	0.6	0.8	1.7	1.0
	86	2.7	1.1	0.2	0.5	0.8	1.3	2.6	1.3
	87	3.4	1.1	0.2	0.8	0.9	1.9	3.3	1.7
TOTAL EMPLOYMENT :	83	0.5	0.2	0.2	0.1	0.3	0.1	0.4	0.3
	84	0.5	0.2	0.5	0.3	0.6	0.2	0.8	0.4
	85	0.2	0.2	0.5	0.4	0.6	0.2	0.5	0.4
	86	0.1	0.1	0.3	0.4	0.4	0.2	0.2	0.3
	87	0.0	0.1	0.2	0.5	0.4	0.2	-0.0	0.2
UNEMPLOYMENT RATE (2) :	83	-0.4	-0.0	-0.2	-0.1	-0.2	-0.1	-0.3	-0.2
	84	-0.5	-0.0	-0.4	-0.2	-0.5	-0.2	-0.7	-0.3
	85	-0.2	-0.0	-0.4	-0.2	-0.5	-0.2	-0.5	-0.3
	86	-0.1	-0.0	-0.3	-0.3	-0.4	-0.2	-0.2	-0.2
	87	-0.1	-0.0	-0.2	-0.3	-0.4	-0.2	-0.1	-0.2
EXCHANGE RATE (effective) :	83	0.1	0.4	0.4	0.2	0.5	0.0	0.2	0.3
	84	-0.1	1.1	0.8	0.5	1.0	-0.0	0.6	0.6
	85	-0.6	1.3	0.7	0.9	1.0	-0.2	0.4	0.5
	86	-1.3	0.7	0.3	0.9	0.7	-0.4	-0.1	0.1
	87	-1.7	-0.0	0.2	0.9	0.5	-0.7	-0.7	-0.2
SHORT-TERM INTEREST RATE (2) :	83	0.6	0.7	0.9	0.5	0.9	0.3	0.4	0.6
	84	1.0	1.8	1.5	1.0	1.5	0.3	1.6	1.2
	85	1.1	1.8	1.0	1.4	1.2	0.4	1.9	1.3
	86	1.3	1.3	0.4	1.7	1.1	0.5	2.1	1.2
	87	1.6	0.8	0.5	1.9	1.3	0.6	2.2	1.3
GOVERNMENT FINANCIAL BALANCE (3) :	83	-0.8	-1.0	-0.9	-1.3	-1.0	-1.4	-0.9	-1.0
	84	-0.8	-1.0	-0.8	-1.6	-1.0	-1.7	-1.2	-1.2
	85	-1.1	-1.1	-1.0	-1.9	-1.3	-1.1	-1.6	-1.4
	86	-1.4	-1.3	-1.1	-2.1	-1.7	-1.5	-1.2	-1.8
	87	-1.6	-1.6	-1.3	-2.5	-2.1	-1.9	-1.8	-2.1
CURRENT BALANCE (U.S.$ billion) (2) :	83	-11.3	-2.1	-2.4	-1.7	-2.3	-1.6	-0.9	-3.2
	84	-13.9	-2.8	-3.0	-2.5	-3.1	-2.0	-1.0	-4.2
	85	-15.4	-3.3	-3.3	-3.4	-3.0	-2.1	-2.4	-4.7
	86	-18.6	-3.8	-4.9	-4.9	-3.6	-2.3	-2.7	-5.8
	87	-22.1	-4.1	-5.6	-5.7	-4.2	-2.4	-3.1	-6.8

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

28. For money demand, the higher real and nominal income changes given by a floating exchange rate imply a more substantial monetary expansion beyond the second year. In general, the combination of higher activity and prices gives some reduction in the deterioration in the government balance position. With respect to the balance of payments, the effects on the current account are little changed in the first two years, but show a general improvement thereafter, significantly so for the United States.

29. The impact of a fixed versus floating exchange rate regime with a fixed money supply assumption is relatively minor -- compare Tables 2 and 4 -- certainly in comparison with those for the fixed interest rate case outlined above. The main reason is that with higher interest rates and more moderate price movements, the effects on exchange rates are relatively small. The results fall into two general categories: for some countries, the exchange rate tends to depreciate progressively over the period, reflecting either relatively large price movements (as in the case of the United States) or relatively small interest rate movements (as in the case of Italy); for others, the interest rate responses are sufficiently strong to offset the effect of a lower expected exchange rate, thereby giving an appreciation for most, if not all, of the period. The Canadian model shows a mix of the two responses, with a minor appreciation over the first three years followed by a minor depreciation.

30. A more important contrast is that of the impact of the alternative monetary policy assumptions under floating exchange rates (Tables 3 and 4). These results show the most striking difference in the outturns for activity and prices for all countries, reflecting the interaction of interest rate and exchange rate assumptions. With fixed interest rates, the exchange rate depreciation induced through progressive inflationary pressures is relatively substantial and tends to reinforce the activity response whilst adding further to inflation. With fixed money, higher interest rates limit or reverse the extent of currency depreciation, whilst substantially reducing the overall output response through the effects of higher capital costs primarily on investment. The combination of these two factors gives major reductions in price and wage responses, by reducing both import costs and pressure of demand effects on the goods and labour markets.

Monetary Conditions and Exchange Rates

A. Interest rates

31. In examining more clearly the influence of monetary conditions in the model, a 100-basis-points reduction in short-term interest rates is considered, under alternative fixed and floating exchange rate assumptions. In both cases, government expenditures in real terms are maintained at baseline levels.

32. The principal mechanisms involved in these simulations are those outlined earlier in paragraphs 12 to 14. Briefly, a reduction in short-term rates feeds through gradually into long-term rates and thereby reduces capital costs and the cost of consumer borrowing, and improves short-term profitability. This increases investment demand, raising ex ante sales, normal output and, through the output supply equation, the level of production. Employment is affected by two countervailing forces -- those coming from factor substitution, given a lower relative cost of capital, and those coming from output scale effects reflecting stimulated demand and improved

profitability. Consumers expenditure is raised by a combination of higher income and lower interest costs. With fixed exchange rates and higher demand, the real trade balance will be adversely affected. For wages and prices, increased output in relation to potential and lower unemployment both exert upward pressure, although these may be partially damped through the impact of lower interest costs and modified by changes in productivity. The net effect on the government balance will, given lower interest payments and higher activity rates, be generally favourable.

33. With floating exchange rates, the effects of lower short-term interest rates, higher prices and a deterioration in the current account combine to give a steady depreciation. This in turn helps offset the deterioration in the real trade balance, reinforcing the real GNP response, but adding to inflationary pressures on prices and wages through higher import costs. Given the effects of improved short-run competitiveness on net exports, the current balance effects are likely to be more favourable in the longer term, as will be the effects on the government financial balance. For a given reduction in short-term interest rates, the higher activity and price responses obtained with a floating exchange rate will generally imply larger increases in money demand.

Summary results

34. A summary of relevant results is given in Tables 5 and 6. In both cases the stimulus to private investment is fairly substantial over the period, resulting in a steady rise in output. The GNP effects by the fourth year average 1/2 per cent, with a fixed exchange rate and 3/4 per cent with a floating rate, with the main differences in response for the two cases largely accounted for by differences in the real foreign balance. The largest overall investment response is that for the Italian model, followed by the United States, the United Kingdom and Japan. The U.S. model shows the quickest response, maintaining a generally higher increase over the three years. For Germany the rise in private fixed investment is generally below-average, but this is supplemented by the relatively strong influence of real interest rates in the output supply equation, giving a higher-than-average increase in stockbuilding.

35. With fixed exchange rates (Table 6), lower interest rates and higher activity provide some further stimulus to consumption, broadly in line with the scale of real interest rate elasticities in the consumption functions. With a floating exchange rate (Table 5), the induced increase in consumer prices, through higher import costs and the consequent reduction in real wages, significantly dampen, and in some cases reverse, the consumption response. For Japan this is generally not the case, given a smaller and more gradual effect of import prices on domestic prices and a more stable real wage.

36. For wages and prices, the comparison of Tables 5 and 6 provide some interesting contrasts. For a number of countries, notably Canada, France and Italy, significant price responses are more or less absent with fixed exchange rates. This largely reflects the lack of a significant employment response, with the positive scale effects of higher output being only just sufficient to offset the substitution effects between labour and capital. In the German model, the direct influence of productivity growth on wages tends to offset upward price pressure resulting from higher levels of economic activity.

Table 5: A REDUCTION IN SHORT-TERM INTEREST RATES WITH FLOATING EXCHANGE RATES

COUNTRY	YEAR	USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE MEAN
		% differences from baseline							
GDP/GNP REAL	83	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
	84	0.7	0.5	0.5	0.2	0.4	0.2	0.3	0.4
	85	0.8	0.9	0.7	0.3	0.5	0.4	0.5	0.6
	86	0.8	1.2	0.7	0.4	0.6	0.5	0.5	0.7
	87	0.8	1.3	0.7	0.6	0.7	0.6	0.6	0.8
PRIVATE CONSUMPTION REAL	83	0.0	0.1	0.1	-0.0	0.1	-0.0	0.0	0.0
	84	0.1	0.3	0.1	-0.1	0.2	-0.1	0.1	0.1
	85	0.1	0.5	0.1	-0.1	0.2	-0.2	0.2	0.1
	86	0.0	0.7	0.1	-0.1	0.2	-0.3	0.2	0.1
	87	-0.1	0.8	0.1	-0.0	0.1	-0.3	0.1	0.1
TOTAL PRIVATE INVESTMENT	83	1.3	0.7	0.4	0.2	0.7	0.4	0.1	0.5
	84	3.1	1.8	1.1	0.7	1.7	1.7	0.5	1.5
	85	3.5	2.7	1.8	1.3	2.7	3.3	1.0	2.3
	86	3.8	3.4	2.1	2.1	3.8	5.1	1.6	3.1
	87	4.5	4.0	2.1	2.8	4.7	6.5	2.1	3.8
STOCKBUILDING (1)	83	0.1	-0.0	0.1	0.0	0.0	-0.0	-0.0	0.0
	84	0.2	-0.0	0.3	0.0	0.1	0.0	0.1	0.1
	85	0.1	-0.0	0.3	0.0	0.1	0.1	0.1	0.1
	86	0.1	0.0	0.3	0.0	0.0	0.1	0.1	0.1
	87	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.1
REAL FOREIGN BALANCE (1)	83	-0.1	-0.0	-0.0	0.0	-0.0	0.0	0.0	-0.0
	84	-0.1	0.0	-0.0	0.1	-0.0	0.1	0.0	0.0
	85	-0.0	0.0	-0.0	0.1	-0.0	0.1	0.0	0.0
	86	0.0	-0.0	0.0	0.1	-0.1	0.0	0.0	0.0
	87	0.1	-0.1	0.0	0.0	-0.1	-0.0	0.0	-0.0
GDP/GNP DEFLATOR	83	0.1	-0.0	0.1	0.0	0.1	0.1	0.0	0.1
	84	0.6	0.1	0.4	0.2	0.6	0.5	0.1	0.4
	85	1.4	0.5	0.9	0.5	1.5	1.2	0.4	0.9
	86	2.4	1.0	1.3	0.8	2.5	1.9	0.8	1.5
	87	3.8	1.4	1.4	1.0	3.8	2.3	1.3	2.1
WAGE RATE	83	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
	84	0.7	0.4	0.5	0.3	0.5	0.5	0.1	0.4
	85	1.6	0.9	0.9	0.6	1.4	1.2	0.4	1.0
	86	2.9	1.5	1.2	0.9	2.4	1.9	0.8	1.7
	87	4.4	2.1	1.2	1.1	3.6	2.3	1.3	2.3
TOTAL EMPLOYMENT	83	0.1	0.0	0.1	0.0	0.0	-0.0	0.0	0.0
	84	0.5	0.1	0.4	0.0	0.2	0.0	0.2	0.2
	85	0.6	0.2	0.7	0.1	0.3	0.0	0.2	0.3
	86	0.6	0.2	1.0	0.1	0.4	0.0	0.2	0.4
	87	0.5	0.3	1.3	0.1	0.4	-0.0	0.2	0.4
UNEMPLOYMENT RATE (2)	83	-0.1	-0.0	-0.1	-0.0	-0.0	0.0	-0.0	-0.0
	84	-0.4	-0.0	-0.3	-0.0	-0.1	-0.0	-0.1	-0.1
	85	-0.5	-0.0	-0.6	-0.0	-0.2	-0.0	-0.1	-0.2
	86	-0.5	-0.0	-0.9	-0.1	-0.3	-0.0	-0.1	-0.3
	87	-0.4	-0.0	-1.1	-0.1	-0.3	0.0	-0.1	-0.3
EXCHANGE RATE (effective)	83	-0.7	-0.6	-0.6	-0.6	-0.7	-0.7	-0.6	-0.7
	84	-1.5	-1.1	-1.2	-1.2	-1.6	-1.4	-1.1	-1.3
	85	-2.2	-1.7	-1.9	-1.7	-2.7	-2.3	-1.5	-2.0
	86	-3.8	-1.9	-2.0	-1.8	-3.8	-2.8	-2.1	-2.6
	87	-5.2	-2.3	-2.1	-2.0	-5.3	-3.0	-2.6	-3.2
MONEY SUPPLY - BROAD	83	0.7	0.7	0.5	0.4	0.3	1.3	0.6	0.6
	84	1.6	1.5	1.5	0.8	0.8	2.9	1.3	1.5
	85	2.6	2.5	2.5	1.3	1.5	4.4	2.0	2.4
	86	3.7	3.5	3.4	1.7	2.3	6.0	2.7	3.3
	87	4.8	4.3	3.9	2.0	3.2	7.2	3.5	4.1
GOVERNMENT FINANCIAL BALANCE (3)	83	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1
	84	0.4	0.2	0.3	0.2	0.2	0.6	0.4	0.3
	85	0.7	0.3	0.5	0.3	0.5	1.0	0.7	0.6
	86	0.9	0.5	0.8	0.4	0.7	1.3	0.9	0.8
	87	1.0	0.7	0.9	0.6	0.9	1.7	1.1	1.0
CURRENT BALANCE (U.S.$ billion) (2)	83	-2.9	-0.6	-0.7	-0.2	-0.2	-0.1	0.1	-0.6
	84	-3.7	-0.9	-1.2	-0.0	-0.3	-0.1	0.1	-0.9
	85	-2.5	-1.2	-1.2	0.2	-0.2	-0.2	0.2	-0.7
	86	-1.0	-1.5	-0.9	0.3	-0.0	-0.4	0.4	-0.4
	87	0.0	-2.7	-0.9	-0.0	0.3	-0.9	0.5	-0.5

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 6: A REDUCTION IN SHORT-TERM INTEREST RATES WITH FIXED EXCHANGE RATES

COUNTRY		YEAR	USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE MEAN
			% differences from baseline							
GDP/GNP REAL		83	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1
		84	0.6	0.5	0.5	0.1	0.3	0.2	0.2	0.3
		85	0.7	0.7	0.6	0.2	0.4	0.4	0.3	0.4
		86	0.6	0.8	0.4	0.3	0.4	0.4	0.3	0.5
		87	0.5	0.9	0.3	0.4	0.4	0.5	0.4	0.5
PRIVATE CONSUMPTION REAL		83	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.1
		84	0.2	0.4	0.3	0.0	0.3	0.1	0.2	0.2
		85	0.2	0.5	0.4	0.0	0.4	0.1	0.3	0.3
		86	0.2	0.7	0.3	0.1	0.4	0.1	0.4	0.3
		87	0.2	0.7	0.3	0.1	0.4	0.1	0.4	0.3
TOTAL PRIVATE INVESTMENT		83	1.2	0.7	0.4	0.3	0.8	0.4	0.1	0.5
		84	3.0	1.7	1.1	0.7	1.7	1.7	0.4	1.5
		85	3.4	2.4	1.5	1.1	2.5	3.1	0.8	2.1
		86	3.5	2.9	1.4	1.6	3.1	4.4	1.1	2.6
		87	3.9	3.2	1.1	2.0	3.5	5.3	1.5	2.9
STOCKBUILDING	(1)	83	0.1	-0.0	0.1	0.0	0.0	-0.0	-0.0	0.0
		84	0.1	-0.0	0.3	0.0	0.1	0.0	0.1	0.1
		85	0.1	-0.0	0.3	0.0	0.0	0.1	0.1	0.1
		86	0.0	0.0	0.2	0.0	-0.0	0.1	0.1	0.1
		87	0.0	0.0	0.1	0.1	-0.0	0.0	0.1	0.0
REAL FOREIGN BALANCE	(1)	83	-0.1	-0.0	-0.1	-0.0	-0.1	-0.0	-0.0	-0.0
		84	-0.1	-0.1	-0.2	-0.0	-0.2	-0.1	-0.1	-0.1
		85	-0.2	-0.2	-0.2	-0.1	-0.3	-0.1	-0.1	-0.2
		86	-0.2	-0.2	-0.2	-0.1	-0.3	-0.2	-0.2	-0.2
		87	-0.3	-0.3	-0.2	-0.1	-0.4	-0.3	-0.2	-0.3
GDP/GNP DEFLATOR		83	0.1	-0.1	0.0	0.0	0.1	-0.0	-0.0	0.0
		84	0.4	0.0	0.2	0.1	0.3	0.1	-0.0	0.1
		85	1.1	0.2	0.3	0.1	0.6	0.2	-0.0	0.3
		86	1.8	0.4	0.2	0.1	0.9	0.3	0.0	0.5
		87	2.5	0.7	-0.1	0.1	1.1	0.3	0.0	0.7
WAGE RATE		83	0.1	0.0	0.1	0.0	0.0	-0.0	-0.0	0.0
		84	0.6	0.2	0.2	0.0	0.2	0.0	-0.0	0.2
		85	1.3	0.5	0.2	0.1	0.5	0.1	-0.0	0.4
		86	2.2	0.8	-0.1	0.1	0.8	0.2	0.0	0.6
		87	3.1	1.1	-0.3	0.2	1.0	0.3	0.0	0.8
TOTAL EMPLOYMENT		83	0.1	0.0	0.1	0.0	0.0	-0.0	-0.0	0.0
		84	0.4	0.1	0.4	0.0	0.1	-0.0	0.0	0.2
		85	0.5	0.1	0.8	0.0	0.2	-0.0	0.1	0.2
		86	0.4	0.2	1.0	0.0	0.2	-0.0	0.0	0.3
		87	0.3	0.2	1.0	0.1	0.2	-0.0	0.0	0.2
UNEMPLOYMENT RATE	(2)	83	-0.1	-0.0	-0.1	-0.0	-0.0	0.0	0.0	-0.0
		84	-0.4	-0.0	-0.4	-0.0	-0.1	0.0	-0.0	-0.1
		85	-0.4	-0.0	-0.6	-0.0	-0.1	0.0	-0.0	-0.2
		86	-0.3	-0.0	-0.8	-0.0	-0.1	0.0	0.0	-0.2
		87	-0.2	-0.0	-0.9	-0.0	-0.1	0.0	0.0	-0.2
EXCHANGE RATE (effective)		83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MONEY SUPPLY - BROAD		83	0.7	0.6	0.5	0.4	0.3	1.2	0.6	0.6
		84	1.6	1.3	1.2	0.6	0.7	2.4	1.1	1.3
		85	2.4	2.0	1.9	0.8	1.1	3.3	1.5	1.9
		86	3.3	2.7	2.1	0.9	1.4	4.2	1.7	2.3
		87	4.0	3.1	2.0	1.0	1.6	4.9	1.9	2.7
GOVERNMENT FINANCIAL BALANCE	(3)	83	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.1
		84	0.4	0.2	0.3	0.2	0.2	0.6	0.3	0.3
		85	0.7	0.3	0.5	0.3	0.4	1.0	0.5	0.5
		86	0.8	0.4	0.6	0.4	0.5	1.3	0.7	0.7
		87	0.8	0.5	0.7	0.5	0.7	1.6	0.8	0.8
CURRENT BALANCE (U.S.$ billion)	(2)	83	-2.5	-0.4	-0.4	-0.1	-0.1	-0.0	0.0	-0.5
		84	-4.4	-1.0	-1.0	-0.2	-0.5	-0.3	-0.2	-1.1
		85	-5.0	-1.7	-1.3	-0.3	-0.8	-0.6	-0.3	-1.4
		86	-5.6	-2.8	-1.5	-0.5	-1.1	-1.1	-0.4	-1.9
		87	-7.8	-4.1	-1.6	-0.8	-1.5	-1.5	-0.6	-2.6

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

37. With floating exchange rates (Table 5), the rate of currency depreciation, due to both inflationary pressures from home goods and foreign goods and the reduction in short-term interest rates, is sufficient to give significant increases in wage and price levels for all countries. The feedback of import costs to prices and then exchange rates is also influential in determining the speed and extent of wage and price adjustments over time. Thus, generally larger degrees of depreciation are given for those countries which experience the largest domestic cost and price movements under fixed rates -- the United States, the United Kingdom and Japan. The exchange rate mechanism in INTERLINK is therefore seen to play an important role in the transmission of monetary effects to output and prices -- a result similar to most other open-economy macroeconomic models. For the simple average of the major seven countries, the increase in the GNP deflator by the fifth year is around 2 per cent with floating rates compared with 3/4 per cent with fixed exchange rates.

38. The results for other main macroeconomic aggregates are broadly consistent with prior expectations. In general, the impact on the current balance is adverse, although for some countries in the case of floating exchange rates there is an overall improvement because competitiveness losses are reversed. The demand for money rises steadily over the period, and is accentuated in floating rate mode given larger movements in both GNP and price levels. The combination of higher activity and lower interest costs provides progressive improvements in the government balance over the period, with increased activity responses in the floating rate case giving marginally greater improvements in later years.

B. Exchange rates

39. The single-country model properties with respect to an exogenous 10 per cent depreciation in the effective exchange rate are reported in Tables 7-9 for three alternative policy settings. These include alternative fixed interest rate and fixed money supply assumptions, with unchanged real non-wage government expenditure (Tables 7 and 8), and a third case in which money supply and nominal non-wage expenditures are assumed unchanged. These results are useful for diagnostic purposes only, since they exclude, by assumption, the endogenous influence of policy on exchange rates. As is discussed in the later linkage section of this paper, the analysis of exchange rate changes on a single-country basis for a major trading nation is extremely limited since it ignores internatinal feecbacks which are often crucial to the results for output, prices and the current balance.

40. With fixed interest rates, the initial effect of currency depreciation is to raise, in domestic currency terms, the price of impored inputs and competing foreign goods. This in turn stimulates net exports and, in consequence, domestic output in the short run, through improved cost and price competitiveness in world markets, whilst raising import costs and, through wage-price interactions, domestic wage and price levels.

41. The dynamics and form of the wage/price relationships are clearly of central importance to the overall outcomes. In the most recent price blocks business value-added deflators respond directly to both higher energy costs and competitor prices, implying an increase in profit margins. The increase of import costs other than energy affects the value added deflator indirectly through the response of domestic capital and labour costs. Consumer prices in turn combine the effects of a higher domestic value-added deflator and the

higher cost of imported goods for final consumption. With wages tending to lag behind consumer prices for most countries, a sustained depreciation will therefore imply a real wage squeeze over much of the period. The homogeneous form of the wage/price equations is such as to generate a full long-run adjustment to higher import prices, bringing about a steady erosion of competitiveness gains, with the speeds of adjustment influenced by the weights given to import costs and competing goods prices, and the specific dynamics of the wage/price sector. These dynamics are further complicated by the response of the excess demand in product markets which, in most countries, tends to accelerate the erosion of initial gains in competitiveness.

42. Because the erosion of competitiveness responses (noted above) is subject to lags, the effects on the real trade balance will be positive over much, if not all, of the period. Improved profitability and the demand stimulus from trade will tend to raise actual and expected production, and also increase the demand for factors, particularly capital, given the shift in relative factor prices. To the extent that real wages are squeezed and inflation rates rise, consumption will be lowered over the period, tending in the longer run to offset the demand stimulus from higher net exports. The effects on the current balance depend importantly on the strength and direction of the competitiveness response and, in the short term, the movements in the terms of trade. Money demand should in the long run increase proportionately with the depreciation whilst government financial balances are likely to improve given a higher activity rate.

43. With a fixed money supply assumption, interest rates will be driven up to choke off the excess money demand and will therefore remain at permanently higher levels, unless nominal income returns to its pre-depreciation levels. This particular element brings into question the realism of the initial shock. To the extent that domestic demand and price adjustments are slow to develop or fail to be realised, and money demand is relatively inelastic with respect to interest rate changes, the scale of simulated movements in nominal interest rates may be sufficiently large to have otherwise reversed the initial shock -- had the exchange rate been endogenously determined. By maintaining an exogenous shift the simulation may therefore represent a situation of extreme and sustained disequilibrium.

44. The primary effects of maintaining a fixed money supply will be to reduce domestic demand and employment, through higher capital costs and reduced profitability, offsetting the stimulus from net exports and also tending to dampen the response of wages and prices. Compared with the fixed interest rate case therefore, both output and price responses will strengthen the trade and current account balances, by weakening import demand and slowing the speed with which short-term competitiveness gains are eroded. Given reduced output and employment and higher interest rates, the government account balance will tend to worsen.

45. The additional effect from also maintaining an unchanged nominal expenditure path, is to squeeze real fiscal expenditure in real terms as prices rise and further restrain the output and price responses. Both effects will give a further overall improvement in the current balance. Given reduced nominal demand, increases in interest rates will tend to be more moderate and, given also the unchanged level of nominal non-wage expenditures, some relative improvement in government balances would be expected.

Comparative results

46. Comparative results for a currency depreciation under fixed interest rate assumptions, shown in Table 7, reveal a fairly wide range of reactions, reflecting a number of country-specific model characteristics. The overall speed of the price response is relatively fast, with the level of expenditure and GNP price deflators higher on average by 8 1/2 per cent over five years. The most rapid responses are those for Italy, the United Kingdom and Germany. Relatively slow adjustments for both Japan and the United States, reflecting the relative weight of imports in domestic expenditure and the price relationships.

47. Given the general pattern of competitiveness responses and the overall price movements, the relative improvements in net exports tail off significantly in the longer run. For most countries, investment rises steadily over the period, averaging 5 per cent above baseline by the fifth year. Employment is on average 1/2 per cent higher. For some countries, notably Canada, Italy and the United Kingdom, the general decline or reversal of activity effects towards the end of the period, combined with the change in factor prices, is also sufficient to give some small reductions in employment levels. With the exception of Japan, the consumption response is firmly negative, reflecting the reduction in real wages and a temporarily higher inflation rate. The atypical behaviour of consumption in the Japanese model reflects the role of labour productivity and terms of trade variables in the wage equation, which result in a small increase in the real wage over the period.

48. On average the real GNP response shows a steady rise over the first three years, peaking at 1.2 per cent in the fourth year. Thereafter the real GNP response tends to decline, reflecting the erosion of competitiveness gains. The distribution of responses is nonetheless very wide. The largest overall increases are those for Germany, Japan and Canada, which enjoy the largest overall improvements in net exports. Given the combination of rapidly eroded competitiveness gains and the largest reduction in consumption, the shortest-lived response is that for Italy.

49. The overall influence on current account balances follows the characteristic "J" curve effect with adverse movements in the terms of trade leading to some deterioration in the short term, followed by growing improvements over a two- to three-year period. Most countries show also some decline towards the end of the period, although cumulative improvements in the foreign net asset stock tend to reinforce the improvements in investment income flows. The movements in money demand generally reflect the paths of real income and prices, with levels higher on an average by 9 per cent in the fifth year.

50. With an unchanged money supply (Table 8), nominal interest rates rise substantially over the period, resulting in sharp falls in investment and further reductions in consumption. Given the interaction of below-average interest rate sensitivity in the demand-for-money functions and sustained increases in nominal demand, the increases obtained for a number of countries are unreasonably large -- notably so for Germany, France, the United Kingdom and Canada -- reflecting positions of extreme disequilibrium. As a result, real GNP falls by an average 1 per cent by the fifth year, compared with an average increase of 1 per cent in the fixed interest rate case. Lower demand pressure, from activity and employment, significantly offsets the effect of higher import costs on domestic prices, reducing the fifth-year response by an

Table 7: 10% EXCHANGE RATE DEPRECIATION WITH FIXED INTEREST RATES

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR	% differences from baseline							MEAN
GDP/GNP REAL	83	0.4	0.4	-0.1	0.0	0.2	0.3	0.6	0.3
	84	0.4	1.2	0.3	0.5	0.8	0.1	1.3	0.7
	85	0.6	1.9	2.0	1.0	0.9	-0.3	1.5	1.1
	86	0.7	2.2	2.9	1.3	0.5	-0.2	1.0	1.2
	87	0.7	2.4	2.0	1.5	-0.1	0.1	0.4	1.0
PRIVATE CONSUMPTION REAL	83	-0.1	-0.3	-1.0	-0.5	-0.7	-0.8	-0.3	-0.5
	84	-0.6	-0.6	-1.6	-1.2	-0.8	-1.7	-0.7	-1.0
	85	-0.7	-0.2	-1.1	-1.3	-0.7	-2.1	-1.0	-1.0
	86	-0.7	0.3	-0.7	-1.0	-0.9	-2.0	-1.3	-0.9
	87	-0.7	0.7	-0.9	-0.8	-1.2	-1.6	-1.8	-0.9
TOTAL PRIVATE INVESTMENT	83	0.4	0.2	0.0	-0.7	-0.8	0.3	0.3	-0.0
	84	0.2	1.5	0.3	1.1	0.9	0.1	1.4	0.8
	85	0.8	3.1	3.9	3.3	3.1	2.5	2.7	2.8
	86	1.9	4.2	6.7	5.2	4.8	6.3	3.7	4.7
	87	3.0	4.8	6.0	6.2	5.2	7.3	3.8	5.2
STOCKBUILDING (1)	83	0.1	-0.1	-0.2	-0.2	0.1	-0.0	-0.0	-0.1
	84	0.1	-0.1	-0.1	-0.3	0.1	0.0	0.0	-0.1
	85	0.0	-0.0	0.5	-0.1	0.1	0.0	0.2	0.1
	86	0.0	0.0	1.3	0.1	-0.1	-0.0	0.1	0.2
	87	0.0	0.0	0.8	0.3	-0.1	0.0	0.0	0.2
REAL FOREIGN BALANCE (1)	83	0.3	0.6	0.6	0.7	0.6	0.8	0.7	0.6
	84	0.7	1.3	1.3	1.5	1.0	1.2	1.5	1.2
	85	0.9	1.3	1.4	1.4	0.8	0.7	1.4	1.1
	86	0.8	1.1	0.8	1.0	0.4	0.4	1.0	0.8
	87	0.6	0.9	0.5	0.6	0.1	0.3	0.6	0.5
GDP/GNP DEFLATOR	83	0.4	0.6	0.7	0.4	1.0	1.3	0.8	0.7
	84	1.5	2.0	3.4	2.8	4.1	5.2	2.5	3.1
	85	2.9	3.5	6.3	4.9	7.1	8.5	4.8	5.4
	86	4.6	4.7	8.9	6.2	9.6	9.7	7.4	7.3
	87	6.6	5.6	10.0	6.9	11.2	8.8	9.3	8.3
CONSUMER PRICE DEFLATOR	83	0.7	0.9	1.9	1.3	2.1	2.9	1.2	1.6
	84	2.4	2.6	4.3	4.1	4.9	6.4	3.3	4.0
	85	3.6	3.8	6.8	5.9	7.5	9.2	5.4	6.0
	86	5.2	4.8	8.9	7.0	9.5	9.8	7.6	7.5
	87	7.0	5.6	9.9	7.5	10.8	8.9	9.2	8.4
WAGE RATE	83	0.3	0.8	1.6	0.8	1.0	2.1	0.6	1.0
	84	1.3	2.6	4.3	3.2	3.8	5.6	2.4	3.3
	85	2.8	4.3	7.4	5.2	6.7	8.5	5.0	5.7
	86	4.8	5.8	9.5	6.4	9.0	9.3	7.5	7.5
	87	7.0	6.9	9.6	7.0	10.3	8.2	9.1	8.3
TOTAL EMPLOYMENT	83	0.3	0.1	-0.3	-0.0	0.2	-0.0	0.7	0.1
	84	0.5	0.3	-0.3	0.1	0.5	0.2	1.4	0.4
	85	0.5	0.4	0.3	0.3	0.6	0.1	1.3	0.5
	86	0.5	0.5	1.5	0.4	0.3	-0.0	0.6	0.5
	87	0.6	0.6	2.1	0.5	-0.1	-0.1	-0.4	0.5
UNEMPLOYMENT RATE (2)	83	-0.2	-0.0	0.2	0.0	-0.1	0.0	-0.5	-0.1
	84	-0.4	-0.0	0.3	-0.1	-0.4	-0.2	-0.9	-0.2
	85	-0.4	-0.1	-0.3	-0.3	-0.5	-0.1	-0.9	-0.4
	86	-0.5	-0.1	-1.2	-0.3	-0.3	0.0	-0.4	-0.4
	87	-0.5	-0.1	-1.8	-0.4	0.1	0.1	0.3	-0.3
MONEY SUPPLY - BROAD	83	0.2	0.8	0.7	0.4	0.2	1.4	0.9	0.6
	84	0.7	2.8	3.5	2.9	1.7	5.4	3.1	2.9
	85	1.7	5.2	7.0	5.3	4.1	8.7	5.9	5.4
	86	3.0	7.3	11.1	6.9	6.3	10.2	8.6	7.6
	87	4.6	8.8	13.3	7.8	8.0	9.9	10.6	9.0
GOVERNMENT FINANCIAL BALANCE (3)	83	0.1	-0.1	-0.1	-0.1	-0.1	-0.0	0.3	0.0
	84	0.2	0.1	-0.1	-0.2	0.0	-0.1	0.8	0.1
	85	0.4	0.5	0.6	-0.1	0.5	0.0	1.3	0.5
	86	0.6	0.9	1.7	0.3	0.8	0.2	1.6	0.9
	87	0.8	1.2	2.3	0.6	0.9	0.5	1.6	1.1
CURRENT BALANCE (U.S.$ billion) (2)	83	-4.0	-2.3	-4.7	-0.6	-0.3	-0.3	0.9	-1.6
	84	12.0	4.8	1.8	4.0	3.1	2.6	4.0	4.6
	85	19.0	6.2	4.2	4.8	4.2	2.1	4.7	6.5
	86	18.8	6.9	3.3	4.7	4.5	1.4	4.4	6.3
	87	16.2	5.7	2.6	3.1	4.3	0.7	3.9	5.2

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 8: 10% EXCHANGE RATE DEPRECIATION WITH FIXED MONEY SUPPLY

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR	% differences from baseline							MEAN
GDP/GNP REAL	83	0.4	0.2	-0.3	-0.0	0.1	0.3	0.5	0.2
	84	0.2	0.3	-1.0	-0.0	0.1	-0.2	1.0	0.0
	85	-0.0	0.1	-0.4	0.0	-0.8	-1.1	0.6	-0.2
	86	-0.1	-0.2	0.0	-0.2	-1.7	-1.3	-0.5	-0.6
	87	-0.3	-0.1	-0.8	-0.7	-2.0	-1.0	-1.6	-0.9
PRIVATE CONSUMPTION REAL	83	-0.1	-0.5	-1.1	-0.5	-0.8	-0.8	-0.4	-0.6
	84	-0.6	-1.3	-2.4	-1.3	-1.5	-1.9	-1.1	-1.4
	85	-0.9	-1.6	-2.6	-1.4	-2.4	-2.4	-1.9	-1.9
	86	-1.0	-1.6	-2.6	-1.4	-3.0	-2.3	-2.8	-2.1
	87	-1.1	-1.4	-3.0	-1.3	-3.3	-2.0	-3.8	-2.3
TOTAL PRIVATE INVESTMENT	83	0.1	-0.6	-0.5	-0.9	-1.2	-0.1	0.2	-0.4
	84	-1.2	-1.9	-2.6	-1.2	-3.0	-2.6	0.5	-1.7
	85	-1.9	-3.1	-1.9	-2.2	-6.6	-4.5	0.3	-2.8
	86	-2.2	-4.1	-1.4	-3.9	-10.3	-4.8	-0.7	-3.9
	87	-2.8	-4.5	-2.6	-6.5	-12.4	-5.1	-2.8	-5.2
STOCKBUILDING (1)	83	0.1	-0.1	-0.2	-0.3	0.1	-0.0	0.0	-0.1
	84	-0.0	-0.1	-0.9	-0.6	0.0	-0.0	-0.1	-0.2
	85	-0.1	0.0	-0.9	-0.4	-0.2	-0.2	-0.2	-0.3
	86	-0.1	0.0	-0.3	-0.2	-0.3	-0.2	-0.5	-0.2
	87	-0.1	-0.1	-0.5	-0.1	-0.1	-0.0	-0.7	-0.2
REAL FOREIGN BALANCE (1)	83	0.4	0.6	0.7	0.8	0.6	0.8	0.7	0.7
	84	0.8	1.5	1.7	1.6	1.4	1.3	1.6	1.4
	85	1.0	1.7	2.3	1.7	1.8	1.1	1.8	1.6
	86	1.0	1.7	2.0	1.6	2.0	0.9	1.7	1.5
	87	1.0	1.8	1.9	1.5	1.9	0.9	1.7	1.5
GDP/GNP DEFLATOR	83	0.4	0.7	0.7	0.4	0.9	1.3	0.8	0.7
	84	1.4	2.1	3.1	2.7	3.5	5.2	2.6	2.9
	85	2.4	3.2	5.4	4.4	5.2	8.2	5.0	4.8
	86	3.4	3.7	7.7	5.3	5.6	8.9	7.5	6.0
	87	4.3	3.8	9.5	5.7	5.3	7.9	9.3	6.5
CONSUMER PRICE DEFLATOR	83	0.7	1.0	1.9	1.3	2.1	3.0	1.2	1.6
	84	2.2	2.7	4.1	3.9	4.3	6.4	3.5	3.9
	85	3.1	3.7	6.1	5.4	5.8	8.8	5.6	5.5
	86	4.1	4.1	8.1	6.1	6.1	8.9	7.7	6.5
	87	4.9	4.2	9.7	6.4	5.8	7.9	9.2	6.9
WAGE RATE	83	0.3	0.8	1.6	0.8	1.0	2.1	0.6	1.0
	84	1.1	2.2	3.8	3.1	3.5	5.6	2.5	3.1
	85	2.1	3.2	6.6	4.7	5.3	8.3	5.1	5.1
	86	3.3	3.7	9.1	5.5	5.7	8.6	7.7	6.2
	87	4.2	3.8	10.4	5.9	4.9	7.4	9.3	6.5
TOTAL EMPLOYMENT	83	0.3	0.1	-0.4	-0.0	0.2	-0.0	0.7	0.1
	84	0.3	0.1	-1.4	0.0	0.4	0.2	1.4	0.2
	85	0.1	0.1	-2.2	0.1	0.0	0.1	1.2	-0.1
	86	-0.0	0.0	-2.7	0.2	-0.7	-0.0	0.4	-0.4
	87	-0.1	0.0	-3.5	0.2	-1.3	-0.1	-0.6	-0.8
UNEMPLOYMENT RATE (2)	83	-0.2	-0.0	0.4	0.0	-0.1	0.0	-0.5	-0.1
	84	-0.3	-0.0	1.2	-0.1	-0.3	-0.2	-1.0	-0.1
	85	-0.1	-0.0	1.9	-0.2	-0.0	-0.1	-0.8	0.1
	86	-0.0	-0.0	2.4	-0.2	0.5	0.0	-0.3	0.3
	87	0.1	-0.0	3.0	-0.2	0.9	0.1	0.3	0.6
SHORT-TERM INTEREST RATE (2)	83	0.3	1.5	1.9	1.5	0.9	1.4	1.9	1.3
	84	0.8	3.0	4.1	6.8	4.7	3.0	3.9	3.7
	85	1.1	3.5	5.7	8.5	6.7	2.8	5.8	4.9
	86	1.6	2.9	7.5	8.7	6.2	1.9	6.5	5.0
	87	2.0	2.7	6.8	8.4	5.2	1.2	5.9	4.6
GOVERNMENT FINANCIAL BALANCE (3)	83	0.1	-0.2	-0.2	-0.2	-0.2	-0.4	-0.1	-0.2
	84	0.0	-0.3	-0.9	-1.2	-0.5	-1.6	-0.4	-0.7
	85	-0.1	-0.2	-1.3	-2.2	-1.0	-2.6	-0.9	-1.2
	86	-0.2	-0.3	-1.4	-3.1	-1.9	-3.3	-1.9	-1.7
	87	-0.3	-0.3	-1.9	-4.4	-2.9	-3.4	-2.9	-2.3
CURRENT BALANCE (U.S.$ billion) (2)	83	-3.3	-1.9	-4.4	-0.5	-0.3	-0.3	0.8	-1.4
	84	14.3	6.8	4.4	4.9	4.0	3.1	4.3	6.0
	85	23.1	10.3	9.5	6.4	7.2	3.5	5.7	9.4
	86	24.9	14.0	12.7	7.4	10.0	4.1	6.4	11.3
	87	25.2	16.2	14.5	7.8	11.0	4.2	6.9	12.3

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 9: 10% EXCHANGE RATE DEPRECIATION WITH FIXED MONEY SUPPLY AND UNCHANGED NOMINAL NON-WAGE EXPENDITURES

COUNTRY		YEAR	USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE MEAN
			% differences from baseline							
GDP/GNP REAL		83	0.3	-0.0	-0.5	-0.1	-0.1	0.2	0.4	0.0
		84	-0.0	-0.1	-1.4	-0.2	-0.4	-0.7	0.6	-0.3
		85	-0.2	-0.3	-0.9	-0.3	-1.3	-2.0	0.2	-0.7
		86	-0.4	-0.4	-0.6	-0.7	-2.0	-2.3	-0.9	-1.0
		87	-0.5	-0.2	-1.5	-1.1	-2.1	-1.9	-2.0	-1.3
PRIVATE CONSUMPTION REAL		83	-0.2	-0.5	-1.2	-0.5	-0.8	-0.9	-0.5	-0.7
		84	-0.7	-1.5	-2.5	-1.3	-1.6	-2.1	-1.2	-1.6
		85	-1.0	-1.7	-2.8	-1.5	-2.5	-2.8	-2.0	-2.0
		86	-1.1	-1.7	-2.8	-1.5	-3.1	-2.9	-2.9	-2.3
		87	-1.2	-1.4	-3.3	-1.4	-3.4	-2.5	-3.8	-2.4
TOTAL PRIVATE INVESTMENT		83	0.0	-0.8	-0.6	-1.0	-1.4	0.9	0.1	-0.4
		84	-1.3	-2.2	-3.0	-1.6	-3.3	-0.4	0.2	-1.7
		85	-1.8	-3.1	-2.5	-2.8	-6.4	-1.8	-0.2	-2.7
		86	-2.1	-3.6	-1.9	-4.7	-9.3	-1.5	-1.4	-3.5
		87	-2.6	-3.5	-3.0	-7.2	-10.7	-2.2	-3.4	-4.7
STOCKBUILDING	(1)	83	0.1	-0.0	-0.2	-0.2	0.1	0.0	0.0	-0.0
		84	-0.0	-0.0	-0.9	-0.5	-0.1	-0.0	-0.2	-0.3
		85	-0.1	-0.0	-0.9	-0.3	-0.3	-0.2	-0.3	-0.3
		86	-0.1	-0.0	-0.2	-0.2	-0.3	-0.3	-0.5	-0.2
		87	-0.1	-0.1	-0.5	-0.1	-0.1	-0.1	-0.7	-0.2
REAL FOREIGN BALANCE	(1)	83	0.4	0.7	0.7	0.8	0.8	0.9	0.8	0.7
		84	0.9	1.5	1.9	1.7	1.6	1.4	1.8	1.5
		85	1.1	1.8	2.5	1.9	2.1	1.1	2.1	1.8
		86	1.2	1.8	2.4	1.8	2.2	1.0	2.1	1.8
		87	1.2	1.9	2.3	1.8	2.2	0.9	2.1	1.8
GDP/GNP DEFLATOR		83	0.3	0.7	0.7	0.4	1.0	1.7	0.8	0.8
		84	1.3	2.1	2.9	2.7	3.4	6.5	2.5	3.1
		85	2.1	3.0	5.1	4.3	4.9	10.3	4.6	4.9
		86	2.9	3.4	7.3	5.1	5.2	11.3	6.7	6.0
		87	3.7	3.3	8.9	5.4	4.7	9.9	8.0	6.3
CONSUMER PRICE DEFLATOR		83	0.6	1.1	1.9	1.3	2.1	3.3	1.2	1.7
		84	2.1	2.7	4.0	3.9	4.3	7.5	3.4	4.0
		85	2.9	3.5	5.9	5.3	5.7	10.6	5.2	5.6
		86	3.7	3.9	7.8	6.0	5.8	11.0	7.0	6.5
		87	4.3	3.8	9.3	6.1	5.4	9.5	8.1	6.7
WAGE RATE		83	0.3	0.7	1.5	0.8	0.9	2.4	0.6	1.0
		84	1.0	2.0	3.5	3.1	3.3	6.6	2.3	3.1
		85	1.8	2.8	6.1	4.6	4.9	9.9	4.6	4.9
		86	2.7	3.2	8.5	5.3	4.9	10.4	6.6	6.0
		87	3.4	3.3	9.7	5.5	4.1	8.6	7.6	6.0
TOTAL EMPLOYMENT		83	0.2	0.1	-0.5	-0.1	0.1	0.0	0.6	0.1
		84	0.2	0.1	-1.5	-0.0	0.1	0.2	1.2	0.0
		85	0.0	0.0	-2.4	0.0	-0.3	0.1	0.9	-0.2
		86	-0.1	-0.0	-3.0	0.1	-1.1	-0.1	0.0	-0.6
		87	-0.2	-0.0	-3.8	0.0	-1.5	-0.3	-0.9	-0.9
UNEMPLOYMENT RATE	(2)	83	-0.2	-0.0	0.4	0.0	-0.1	-0.0	-0.4	-0.0
		84	-0.2	-0.0	1.3	-0.0	-0.1	-0.2	-0.8	-0.0
		85	-0.0	-0.0	2.1	-0.1	0.3	-0.1	-0.6	0.2
		86	0.1	-0.0	2.6	-0.1	0.9	0.1	-0.1	0.5
		87	0.2	-0.0	3.3	-0.1	1.2	0.2	0.5	0.8
SHORT-TERM INTEREST RATE	(2)	83	0.2	1.3	1.8	1.4	0.6	1.7	1.9	1.3
		84	0.6	2.4	3.5	6.5	3.9	3.7	3.5	3.4
		85	0.9	2.7	4.7	7.9	5.6	3.4	5.0	4.3
		86	1.3	2.2	6.4	7.9	5.0	2.3	5.4	4.4
		87	1.6	2.2	5.7	7.4	4.0	1.1	4.5	3.8
GOVERNMENT FINANCIAL BALANCE	(3)	83	0.2	0.0	-0.0	-0.0	0.1	-0.1	0.0	0.0
		84	0.2	0.0	-0.5	-0.8	0.0	-0.8	0.0	-0.3
		85	0.2	0.1	-0.6	-1.4	-0.2	-1.4	-0.3	-0.5
		86	0.2	0.2	-0.5	-2.1	-0.8	-1.9	-0.8	-0.8
		87	0.2	0.2	-0.7	-3.0	-1.4	-1.9	-1.4	-1.1
CURRENT BALANCE (U.S.$ billion)	(2)	83	-2.2	-1.5	-3.9	-0.2	0.3	-0.1	1.0	-0.9
		84	16.6	7.4	5.6	5.4	5.4	3.6	4.8	7.0
		85	26.7	10.9	11.2	7.2	8.8	4.5	6.6	10.9
		86	30.5	14.4	15.4	8.8	11.8	5.4	7.7	13.4
		87	33.3	16.7	18.3	9.6	12.9	5.4	8.8	15.0

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

average 1 1/2 per cent. With output and domestic demand falling progressively over the period, the effect on current balances is substantial. The average cumulative improvement obtained for the current balance is $37 billion, compared with $21 billion with fixed interest rates.

51. As shown in Table 9, further substantial improvements in current balances are obtained with the alternative assumption of unchanged nominal expenditures - notably so for the US model. In this case the additional fiscal restriction gives larger reductions in output and employment - 1.3 per cent and 0.9 per cent respectively - by the end of the period. The responses of wages and prices are only marginally affected although, on average, the increases in short-term interest rates are about 100 basis points lower. The average cumulative improvement in the current balance rises to $ 45 billion.

Supply Conditions

A. Wages

52. The analysis of wage effects is examined through a 1 per cent ex ante reduction in nominal wage rates. The shock is carried out through a one-period downward adjustment in the residuals (add-factors) for the nominal wage rate equations, representing an external shock to an otherwise endogenous process of wage determination. Two specific cases are considered, with alternative fixed short-term interest rate and fixed money supply assumptions. Government expenditures are held unchanged in real terms throughout. The relevant results are summarised in Tables 10 and 11.

53. The most immediate effect of an ex ante reduction in wage rates is to reduce labour costs, improving profitability but also putting downward pressure on domestic prices. The extent of simulated wage rate movements in the short run will depend on the degree of current simultaneity between wages and prices and also the extent of immediate changes in demand pressure, particularly in the labour market. The presence of significant lags in the pass-through from costs to final consumer prices will also imply a real wage reduction over the period. The speed and extent of real wage recovery will depend on the specific dynamics of the wage/price blocks, and also the relative influence of real-side pressures coming through lower unemployment and reductions in the gap between actual and potential output.

54. The supply sector response to a reduction in wage costs combines two principal elements: a substitution effect shifting optimal factor proportions from capital to labour, given the relative shift of factor prices, and a scale effect resulting from the overall shift in expected output, which will incorporate the influences of overall demand, profitability and consequential changes in normal output (6). For employment, the combination of positive scale and substitution effects gives higher levels of desired and actual employment. Higher employment feeding through to lower unemployment will, in turn tend to moderate the longer-term movements in the real wage. With fixed interest rates, the overall result for capital and, hence, business fixed investment, depends on the balance of a negative substitution effect, given higher real interest rates, and positive scale effects, with direct implications for demand and output supply.

55. The other important real-side effects concern the responses of the trade and household sectors. With respect to trade, the effects of lower

costs feeding through to competitiveness will tend to improve the real trade balance. For consumers, real disposable income is likely to be squeezed in the short run, given a generally reduced real wage, the slow adjustment of actual to desired employment levels and also the relatively low relative price elasticities for labour. The influence of lower inflation rates over much of the period will tend to moderate the adverse effects of lower real income on consumption, although higher real interest rates may also have an adverse effect on housing investment. The overall effect on real GNP will therefore depend on a balance of positive and negative effects. To the extent that positive effects on real GNP are likely to be small in relation to the fall in the price level, the nominal demand for money is also expected to be lower.

56. With a fixed money supply, the outcomes for investment, output and employment would be improved significantly (see Table 11). Downward pressure on prices, through the demand for money function, will give some general reduction in nominal interest rates, which would tend to both reduce overall costs and prevent the negative effects of factor substitution on the desired capital stock and actual business investment. An all-round improvement in profitability and investment will in turn increase the levels of normal and actual output. For employment, the substitution effect will generally be smaller than with fixed interest rates, but with larger scale effects coming principally from higher overall demand, the overall employment response is likely to be greater, implying also a more buoyant outcome for consumer spending.

57. Given a more positive outcome for the real side and employment, the extent of wage and price movements will generally be more moderate. Improvements in the real trade and current account balances will also tend to be more limited, although a reduction in interest rates will be generally beneficial to the government financial balance.

Summary results

58. With fixed short-term interest rates (Table 10), the average movements in wages and prices reach a peak by the third year, with reductions of 1.9 per cent and 1.5 per cent, respectively, but tend to fall back a little thereafter. The largest effects are those for Germany, the United Kingdom and Japan, given the relatively weak feed-back effects of unemployment on wages; for the German and U.K. models, this reflects lower overall unemployment elasticities, for Japan a more flexible labour supply response. Given discrete lags in the responses of wages to prices in the case of the U.S. and Canadian models, wage rate movements for these countries in the first year are equal to the ex ante shock of 1 per cent, significantly slowing the rates of price adjustment. For Italy and Canada, the relatively damped wage responses are partly attributable to the relatively high overall wage elasticities with respect to the unemployment rate.

59. Employment rises by an average 0.3 per cent over the period with relatively large movements in the models for Germany, the United Kingdom and Canada. For Canada, this reflects the unlagged form of employment adjustment equation; for Germany and the United Kingdom, above-average movements in nominal wage rates. Even though the relative factor price elasticity in the Japanese model is generally lower than those of other countries, its overall employment response is average, given an above-average nominal wage response and larger output scale effects. With the exception of Japan, for which the relative factor price elasticities are significantly lower, negative

Table 10: 1% EX ANTE REDUCTION IN NOMINAL WAGE RATES WITH FIXED INTEREST RATES

COUNTRY	YEAR	USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE MEAN
		% differences from baseline							
GDP/GNP REAL	83	-0.0	0.1	0.0	0.1	-0.0	0.0	-0.0	0.0
	84	-0.1	0.4	0.1	0.1	0.0	0.1	0.1	0.1
	85	-0.1	0.6	-0.0	0.1	0.1	0.1	0.2	0.1
	86	-0.0	0.8	0.2	0.2	0.2	0.0	0.2	0.2
	87	-0.0	0.7	0.6	0.2	0.2	-0.0	0.2	0.3
PRIVATE CONSUMPTION REAL	83	-0.0	0.1	-0.1	0.1	-0.1	-0.0	-0.1	-0.0
	84	-0.0	0.3	0.1	0.1	-0.1	-0.0	0.0	0.0
	85	-0.1	0.3	0.1	-0.0	-0.1	-0.1	0.1	0.0
	86	-0.1	0.3	0.1	-0.1	-0.1	-0.1	0.1	0.0
	87	-0.1	0.2	0.2	-0.1	-0.0	-0.1	0.1	0.0
TOTAL PRIVATE INVESTMENT	83	-0.2	-0.1	-0.4	-0.1	-0.3	-0.1	-0.2	-0.2
	84	-0.5	0.5	-0.6	-0.2	-0.7	0.2	-0.4	-0.2
	85	-0.6	1.0	-1.3	-0.3	-0.9	-0.1	-0.3	-0.4
	86	-0.7	1.2	-1.2	-0.2	-1.1	-0.4	-0.1	-0.4
	87	-0.5	1.1	-0.3	-0.0	-1.1	-0.2	0.0	-0.1
STOCKBUILDING (1)	83	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
	84	-0.0	-0.0	0.1	0.0	0.0	0.0	0.0	0.0
	85	0.0	-0.0	-0.2	-0.0	0.0	0.0	0.0	-0.0
	86	0.0	0.0	-0.2	0.0	0.0	-0.0	0.0	-0.0
	87	0.0	0.0	0.1	0.0	-0.0	-0.0	-0.0	0.0
REAL FOREIGN BALANCE (1)	83	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
	84	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
	85	0.1	0.2	0.3	0.2	0.3	0.1	0.2	0.2
	86	0.1	0.3	0.5	0.3	0.3	0.1	0.2	0.3
	87	0.2	0.3	0.5	0.2	0.4	0.1	0.2	0.3
GDP/GNP DEFLATOR	83	-0.4	-0.7	-0.8	-0.7	-0.8	-0.5	-0.4	-0.6
	84	-0.8	-1.6	-1.7	-1.3	-1.4	-0.9	-0.8	-1.2
	85	-0.9	-2.0	-2.6	-1.5	-1.7	-0.9	-0.9	-1.5
	86	-1.1	-2.1	-2.9	-1.4	-1.7	-0.6	-0.8	-1.5
	87	-1.1	-1.9	-2.7	-1.2	-1.5	-0.2	-0.6	-1.3
WAGE RATE	83	-1.0	-1.5	-1.6	-1.3	-1.2	-1.2	-1.0	-1.3
	84	-1.1	-2.2	-2.5	-1.7	-1.8	-1.4	-1.1	-1.7
	85	-1.2	-2.6	-3.3	-1.8	-2.0	-1.2	-1.1	-1.9
	86	-1.4	-2.6	-3.5	-1.7	-2.0	-0.8	-0.9	-1.8
	87	-1.3	-2.4	-3.1	-1.5	-1.7	-0.3	-0.6	-1.6
TOTAL EMPLOYMENT	83	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1
	84	0.0	0.2	0.4	0.1	0.2	0.1	0.2	0.2
	85	0.1	0.2	0.4	0.1	0.3	0.2	0.3	0.2
	86	0.1	0.3	0.4	0.2	0.4	0.1	0.4	0.3
	87	0.1	0.3	0.6	0.2	0.5	0.1	0.4	0.3
UNEMPLOYMENT RATE (2)	83	-0.2	-0.0	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1
	84	-0.0	-0.0	-0.3	-0.1	-0.2	-0.1	-0.1	-0.1
	85	-0.1	-0.0	-0.3	-0.1	-0.3	-0.1	-0.2	-0.2
	86	-0.1	-0.0	-0.3	-0.2	-0.3	-0.1	-0.3	-0.2
	87	-0.1	-0.0	-0.5	-0.2	-0.4	-0.1	-0.2	-0.2
EXCHANGE RATE (effective)	83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MONEY SUPPLY - BROAD	83	-0.1	-0.7	-0.8	-0.7	-0.2	-0.5	-0.4	-0.5
	84	-0.4	-1.4	-1.7	-1.2	-0.7	-0.9	-0.8	-1.0
	85	-0.6	-1.5	-2.5	-1.4	-1.1	-0.8	-0.8	-1.3
	86	-0.9	-1.3	-2.9	-1.4	-1.3	-0.6	-0.7	-1.3
	87	-1.0	-0.9	-2.5	-1.1	-1.3	-0.2	-0.4	-1.1
GOVERNMENT FINANCIAL BALANCE (3)	83	-0.0	-0.0	-0.1	-0.1	0.0	-0.0	-0.0	-0.0
	84	-0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
	85	-0.0	0.1	-0.0	0.0	0.1	0.0	0.1	0.0
	86	-0.0	0.1	-0.1	0.0	0.1	0.0	0.1	0.0
	87	-0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1
CURRENT BALANCE (U.S.$ billion) (2)	83	0.1	-0.3	-0.2	-0.2	-0.0	-0.1	0.0	-0.1
	84	1.2	-0.3	-0.7	0.0	0.2	0.0	0.2	0.1
	85	2.5	0.3	0.2	0.5	0.5	0.2	0.5	0.7
	86	3.5	1.0	1.0	1.0	1.0	0.4	0.6	1.2
	87	4.2	1.8	1.3	1.2	1.2	0.3	0.6	1.5

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 11: 1% EX ANTE REDUCTION IN NOMINAL WAGE RATES WITH FIXED MONEY SUPPLY

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR	% differences from baseline							MEAN
GDP/GNP REAL :	83	0.0	0.3	0.3	0.3	0.0	0.1	0.0	0.1
	84	0.1	0.9	0.8	0.4	0.3	0.2	0.2	0.4
	85	0.2	1.2	0.8	0.5	0.5	0.2	0.4	0.5
	86	0.1	1.1	0.8	0.6	0.5	0.1	0.4	0.5
	87	0.1	0.8	0.9	0.7	0.4	0.0	0.3	0.5
PRIVATE CONSUMPTION : REAL	83	-0.0	0.2	0.1	0.1	-0.0	-0.0	-0.0	0.0
	84	-0.0	0.6	0.5	0.1	0.1	-0.0	0.2	0.2
	85	-0.0	0.7	0.6	0.1	0.3	-0.0	0.3	0.3
	86	-0.0	0.6	0.6	0.1	0.3	-0.1	0.3	0.2
	87	-0.1	0.3	0.6	0.1	0.2	-0.1	0.2	0.2
TOTAL PRIVATE : INVESTMENT	83	-0.1	0.7	0.3	0.4	0.2	0.1	-0.1	0.2
	84	0.2	2.3	0.9	1.1	1.0	0.9	-0.1	0.9
	85	0.4	2.9	0.9	1.7	1.7	1.0	0.2	1.2
	86	0.3	2.5	0.8	2.4	1.8	0.7	0.5	1.3
	87	0.4	1.5	1.0	3.1	1.6	0.6	0.7	1.3
STOCKBUILDING : (1)	83	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.1
	84	0.0	-0.1	0.4	0.1	0.1	0.0	0.1	0.1
	85	0.0	-0.0	0.2	0.0	0.1	0.0	0.1	0.1
	86	0.0	0.1	0.1	0.1	0.0	-0.0	0.0	0.0
	87	-0.0	0.1	0.1	0.1	-0.1	-0.0	0.0	0.0
REAL FOREIGN BALANCE : (1)	83	0.0	-0.0	-0.1	-0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	-0.1	0.0	0.0	0.1	0.1	0.0
	85	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
	86	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.1
	87	0.1	0.1	0.3	0.0	0.0	0.0	0.1	0.1
GDP/GNP DEFLATOR :	83	-0.4	-0.8	-0.7	-0.7	-0.7	-0.6	-0.4	-0.6
	84	-0.7	-1.6	-1.5	-1.2	-1.1	-0.9	-0.8	-1.1
	85	-0.7	-1.8	-2.2	-1.3	-1.1	-0.8	-0.9	-1.3
	86	-0.6	-1.6	-2.6	-1.2	-0.8	-0.5	-0.8	-1.2
	87	-0.4	-1.3	-2.7	-1.0	-0.5	-0.1	-0.5	-0.9
WAGE RATE :	83	-1.0	-1.5	-1.5	-1.3	-1.2	-1.2	-1.0	-1.2
	84	-1.0	-2.0	-2.2	-1.6	-1.6	-1.4	-1.1	-1.5
	85	-0.9	-2.1	-3.0	-1.6	-1.5	-1.2	-1.1	-1.6
	86	-0.8	-1.9	-3.5	-1.5	-1.1	-0.7	-0.9	-1.5
	87	-0.6	-1.7	-3.5	-1.2	-0.7	-0.2	-0.6	-1.2
TOTAL EMPLOYMENT :	83	0.2	0.1	0.4	0.1	0.1	0.1	0.2	0.2
	84	0.1	0.3	1.0	0.2	0.3	0.1	0.3	0.3
	85	0.2	0.4	1.4	0.2	0.5	0.2	0.4	0.5
	86	0.2	0.4	1.7	0.2	0.7	0.2	0.4	0.5
	87	0.2	0.4	1.9	0.3	0.6	0.1	0.3	0.5
UNEMPLOYMENT RATE : (2)	83	-0.2	-0.0	-0.3	-0.1	-0.1	-0.1	-0.1	-0.1
	84	-0.1	-0.0	-0.8	-0.2	-0.2	-0.1	-0.2	-0.2
	85	-0.2	-0.0	-1.2	-0.2	-0.4	-0.2	-0.2	-0.3
	86	-0.2	-0.0	-1.4	-0.2	-0.5	-0.1	-0.3	-0.4
	87	-0.2	-0.0	-1.6	-0.2	-0.5	-0.1	-0.2	-0.4
EXCHANGE RATE : (effective)	83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORT-TERM : INTEREST RATE (2)	83	-0.1	-1.2	-1.4	-1.9	-0.7	-0.4	-0.7	-0.9
	84	-0.4	-0.9	-1.3	-1.9	-1.3	-0.3	-0.8	-1.0
	85	-0.3	-0.2	-1.3	-1.6	-1.1	-0.1	-0.3	-0.7
	86	-0.3	0.3	-1.4	-1.1	-0.6	0.1	-0.1	-0.4
	87	-0.2	0.2	-0.8	-0.6	-0.2	0.1	0.1	-0.2
GOVERNMENT FINANCIAL : BALANCE (3)	83	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	84	0.1	0.2	0.4	0.4	0.3	0.2	0.3	0.3
	85	0.1	0.3	0.7	0.5	0.5	0.3	0.4	0.4
	86	0.2	0.4	0.7	0.6	0.6	0.3	0.4	0.5
	87	0.2	0.3	0.9	0.7	0.7	0.2	0.3	0.5
CURRENT BALANCE : (U.S.$ billion) (2)	83	-0.3	-0.8	-0.8	-0.5	-0.1	-0.1	0.1	-0.3
	84	0.1	-1.4	-2.1	-0.3	-0.3	-0.1	0.1	-0.6
	85	1.1	-1.1	-1.6	0.0	-0.4	-0.0	0.2	-0.2
	86	2.1	-0.5	-1.0	0.2	-0.2	0.1	0.3	0.1
	87	2.6	0.3	-0.5	0.0	0.1	0.1	0.4	0.4

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

substitution effects away from capital towards labour tend to outweigh the positive scale effects, leading to reductions in private investment. For consumption too, Japan and Germany are outliers, with the stimulative effects of lower inflation and higher employment offsetting the negative effects of lower real wages and higher real interest rates. For these two countries, this result reflects the interaction of above-average reductions in the price level and a larger effect of changes in the rate of inflation on consumption.

60. The effects on the real trade balance are favourable and can be broadly ranked with the extent of cost and price reductions. The overall effect on real GNP is on average positive, at around 0.3 per cent by the fifth year, but given the diverse movements in expenditure items, the pattern of movements is extremely wide. The largest GNP increases are those for Japan, reflecting positive movements in all major components. The outcome for the United States is small but negative, with adverse movements in consumption and investment offsetting small net improvements in the real foreign balance.

61. With fixed money supply assumptions (Table 11), the reductions in nominal interest rates are in general sufficient to offset fully the influence of disinflation, tending to raise real interest rates. The extent of short-run movements depends on the relative pattern of price and output responses combined with the relevant demand-for-money elasticities. As in earlier cases, the smallest short-run movements in interest rates are those for Italy and the United States, reflecting smaller price responses and higher semi-elasticities with respect to interest rates. For Japan, short-term movements are generally above-average, but given relatively large movements in real GNP, these quickly subside and reverse in later years.

62. Larger output scale effects give some further increase in the employment response, which averages 0.5 per cent by the third year and remains at that level thereafter. Compared with the fixed interest rate case, the pattern of employment effects is broadly retained across countries, although the response of the German model is disproportionately larger, reflecting relatively unchanged wage responses. The overall effects on consumption are in general more positive, with the relative pattern of effects again consistent with those for the fixed interest rate case.

63. For real GNP, the overall results obtained with a fixed money supply are positive, averaging 1/2 per cent by the third year (broadly in line with the employment response), and are more evenly distributed across countries. Given the relatively smaller movements in interest rates, Italy and the United States continue to be outliers, showing relatively small increases, with Japan and Germany showing the strongest overall increases, followed by France and the United Kingdom. Higher activity levels and smaller reductions in prices, with interest rates endogenised, give generally smaller improvements in the real trade balance. The combination of lower interest rates and higher activity does, however, have significant beneficial effects on the government balances for all of the major seven economies.

B. Energy prices

64. The effects of changes in energy prices are examined in the context of a 10 per cent reduction in traded energy prices. As for exchange rates, single-country simulation analyses are extremely partial, excluding the important effects of lower export demand coming from the energy-producing countries, whilst permitting improvements in trade competitiveness which take

account of changes in domestic cost conditions alone. Such simulations are therefore useful largely for diagnostic purposes (in tracing channels of influence of energy prices in the individual country models). As for the previous wage reduction simulations, two cases are reported (Tables 12 and 13) with alternative fixed interest rate and fixed money supply assumptions and unchanged government expenditures in real terms.

65. The immediate effect of reduced energy import prices is that of reducing import costs, thereby putting downward pressure on domestic prices. Although the import and export prices of energy products are assumed to fall by a full 10 per cent, domestic energy prices are modelled separately and adjust only partially and with a lag to the initial movement in import prices. The effects of reduced energy prices are then passed on through domestic and imported energy terms which enter the relevant business non-energy value added and price deflator equations. For significant energy producers (the United Kingdom, Canada and the United States), an important additional effect is that of the energy value-added deflator which enters directly into the overall business value-added deflator identity. Reductions in consumer prices thereafter will also result in lower wage rates but, subject to significant lags, the real wage is likely to increase at least in the short run.

66. With regard to supply-sector responses, three distinct classifications of country characteristics can be distinguished: net energy importers, subdivided into two groups -- those for which energy and capital are alternatively complements (France, Germany and the United States) or substitutes in production (Japan and Italy) -- and net energy exporters (the United Kingdom and Canada). A reduction in energy prices will in general lead to a direct substitution towards energy and, depending on whether capital and energy enter the production function as complements or substitutes, there will be some additional positive or negative stimulus to capital investment. In simulation though, the downward adjustment of wage costs reacting to lower prices is also important, giving rise to second-round substitution effects between labour and the capital-energy bundle. The direction of simulated factor substitution, particularly with respect to labour and capital, will therefore also depend on the extent of wage-price responses and the nominal interest rate assumption. For significant producers and net exporters of energy, a general reduction in energy prices will also tend to reduce profitability in the energy sector and therefore modify investment and employment responses (7).

67. In addition to the various substitution effects outlined above, scale effects, coming principally from the stimulus to consumption and housing investment, will also be important (8). With fixed interest rates, improvements in the real wage, employment and inflation will have a positive influence on consumption, although the inflation effect may be relatively short lived and partially offset by higher real interest rates. Housing investment in the present model is also, for some countries, particularly sensitive to movements in long-term real interest rates and with fixed nominal rates the effects of increased real disposable income may be reversed, particularly where large falls in domestic prices occur.

68. With regard to the real foreign balance, single-country results will largely reflect the balance of the effects of positive stimulus to energy and non-energy imports, reflecting energy substitution effects, higher overall demand and the effect of improved competitiveness. For the current account balance, the effects will differ importantly between net importers and exporters of energy, given the different movements in the overall terms of trade.

69. With fixed interest rates, the movements in money demand will depend on the balance of higher real GNP and lower prices and, to the extent that prices fall relatively quickly and real GNP effects are smaller in absolute terms, a general reduction is likely. With a fixed money supply, therefore, interest rates are likely to fall, significantly damping the tendency for real interest rates to rise, thereby giving a more widely based improvement in costs and profitability and a generally more favourable outlook for investment. Higher activity responses will however tend to give less favourable movements in net exports and the current account balance and smaller reductions in the levels of both prices and wages.

Summary results

70. With fixed nominal interest rates (Table 12), the overall effects on real GNP are relatively small, peaking at 0.3 per cent in years 2 to 4 then declining to 0.1 per cent in year 5, but with some major dispersion across countries. For Canada there is no overall increase in GNP, with adverse movements in private fixed investment and the real foreign balance exactly offsetting the relatively minor stimulus to consumption. Important in this result is an adverse movement in profitability coming from lower energy prices, which influences expected output and the desired factor mix. Given the absence of an explicit energy production sector, this result may be unduly pessimistic. Results for the United Kingdom and, to a lesser extent, the United States also show some general reductions in investment towards the end of the period, but this largely reflects an adverse response of housing investment to higher real interest rates. GNP responses for Germany, France, Japan and Italy are generally above-average, although for the latter two countries there is some decline beyond the third year coinciding with a net deterioration in investment, influenced by lower housing investment and the effects of factor substitution between energy and capital.

71. For prices and wages, the average reductions are broadly similar by the third year, at around 1 per cent. The GDP deflator response for the United Kingdom is particularly strong, reflecting the weight of net energy exports. For Japan, Italy and, to some extent, France there is some unwinding of the initial downward impact over the period. For Italy and France, this reflects the influence of demand pressure; for Japan, improvements in labour productivity and terms of trade both have a significant influence on wages.

72. Given relatively small movements in real trade balances, the movements in the current account balances largely reflect the respective movements in the terms of trade, with characteristic improvements for net importers of energy and deterioration for net exporters. Movements in government balances are broadly correlated with those of real GNP and employment (9). Given larger overall movements in prices compared with activity, money demand is generally reduced, by an average 1/2 to 3/4 per cent over most of the period. For Japan and Italy, the combination of activity and price movements, however, imply some return to baseline levels by the fifth year.

73. With fixed money supply (Table 13), short-term interest rates fall by an average 50 basis points. For Japan and Italy, though, there is a general reversal, with some small net increases in the second half of the period.

74. The impact of lower interest rates on the capital substitution effects is quite substantial and, with the minor exception of Japan and Italy, where short-term rates rise above baseline in the later years, there is a general

Table 12: 10% REDUCTION IN ENERGY PRICES WITH FIXED INTEREST RATES

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR	% differences from baseline							MEAN
GDP/GNP REAL	83	-0.0	0.2	0.2	0.2	0.1	0.2	-0.0	0.1
	84	0.2	0.4	0.4	0.3	0.2	0.5	-0.0	0.3
	85	0.2	0.4	0.4	0.4	0.3	0.6	0.0	0.3
	86	0.1	0.2	0.4	0.5	0.3	0.3	0.0	0.3
	87	0.0	-0.1	0.3	0.4	0.3	0.1	0.0	0.1
PRIVATE CONSUMPTION REAL	83	0.1	0.2	0.3	0.3	0.3	0.2	0.1	0.2
	84	0.2	0.5	0.5	0.4	0.4	0.5	0.2	0.4
	85	0.3	0.5	0.5	0.5	0.4	0.6	0.2	0.4
	86	0.2	0.3	0.4	0.4	0.4	0.4	0.2	0.3
	87	0.2	-0.0	0.2	0.4	0.4	0.2	0.2	0.2
TOTAL PRIVATE INVESTMENT	83	-0.0	0.2	0.3	-0.0	0.2	0.5	-0.1	0.1
	84	0.2	0.2	0.5	0.2	0.0	0.8	-0.2	0.3
	85	0.1	0.1	0.6	0.4	-0.2	0.5	-0.2	0.2
	86	-0.1	-0.2	0.4	0.6	-0.6	-0.1	-0.2	-0.0
	87	-0.2	-0.6	0.2	0.7	-0.8	-0.2	-0.2	-0.2
STOCKBUILDING (1)	83	-0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	84	0.0	-0.0	0.1	0.0	0.0	0.0	-0.0	0.0
	85	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0
	86	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	87	-0.0	0.0	-0.0	0.1	-0.0	-0.0	-0.0	0.0
REAL FOREIGN BALANCE (1)	83	-0.0	0.0	-0.1	-0.0	-0.1	0.0	-0.0	-0.0
	84	-0.0	0.0	-0.1	-0.0	-0.0	0.1	-0.1	-0.0
	85	-0.0	0.1	-0.0	0.0	0.0	0.1	-0.1	0.0
	86	-0.0	0.1	0.1	-0.0	0.2	0.0	-0.0	0.0
	87	-0.0	0.0	0.1	-0.1	0.2	-0.0	-0.0	0.0
GDP/GNP DEFLATOR	83	-0.3	-0.4	-0.2	-0.5	-0.6	-0.4	-0.3	-0.4
	84	-0.5	-0.8	-0.5	-1.0	-1.4	-0.9	-0.6	-0.8
	85	-0.7	-0.8	-0.7	-1.2	-2.0	-1.1	-0.9	-1.1
	86	-0.8	-0.5	-0.8	-1.1	-2.2	-0.7	-1.0	-1.0
	87	-0.9	-0.1	-0.9	-0.8	-2.0	-0.1	-1.1	-0.9
WAGE RATE	83	-0.2	-0.3	-0.3	-0.6	-0.4	-0.5	-0.1	-0.3
	84	-0.4	-0.6	-0.6	-1.1	-1.2	-1.0	-0.4	-0.7
	85	-0.6	-0.6	-0.8	-1.3	-1.8	-1.1	-0.7	-1.0
	86	-0.8	-0.4	-0.9	-1.1	-1.9	-0.5	-0.9	-0.9
	87	-1.0	-0.2	-1.0	-0.8	-1.7	0.1	-1.0	-0.8
TOTAL EMPLOYMENT	83	-0.2	-0.0	0.1	0.0	-0.0	0.0	-0.1	-0.0
	84	-0.0	0.1	0.2	0.1	-0.0	0.0	-0.2	0.0
	85	0.0	0.1	0.3	0.1	0.1	0.1	-0.1	0.1
	86	0.0	0.1	0.4	0.2	0.3	0.1	0.0	0.2
	87	-0.0	0.1	0.4	0.2	0.4	0.1	0.1	0.2
UNEMPLOYMENT RATE (2)	83	0.1	0.0	-0.0	-0.0	0.0	-0.0	0.0	0.0
	84	0.0	-0.0	-0.2	-0.0	0.0	-0.0	0.1	-0.0
	85	-0.0	-0.0	-0.3	-0.1	-0.1	-0.1	0.0	-0.1
	86	-0.0	-0.0	-0.4	-0.1	-0.2	-0.1	-0.0	-0.1
	87	0.0	-0.0	-0.3	-0.1	-0.2	-0.1	-0.0	-0.1
EXCHANGE RATE (effective)	83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MONEY SUPPLY - BROAD	83	-0.1	-0.4	-0.2	-0.5	-0.1	-0.4	-0.3	-0.3
	84	-0.2	-0.5	-0.3	-0.9	-0.5	-0.8	-0.6	-0.5
	85	-0.3	-0.3	-0.4	-1.0	-1.0	-0.8	-0.9	-0.7
	86	-0.5	-0.0	-0.4	-0.9	-1.3	-0.4	-1.0	-0.6
	87	-0.6	0.1	-0.5	-0.6	-1.5	0.2	-1.1	-0.6
GOVERNMENT FINANCIAL BALANCE (3)	83	-0.0	0.1	0.1	0.1	0.0	0.1	-0.0	0.0
	84	-0.0	0.1	0.2	0.2	0.1	0.2	-0.1	0.1
	85	0.0	0.2	0.3	0.4	0.1	0.4	-0.1	0.2
	86	0.0	0.1	0.3	0.4	0.1	0.4	-0.2	0.2
	87	0.0	0.1	0.3	0.4	0.1	0.4	-0.2	0.1
CURRENT BALANCE (U.S.$ billion) (2)	83	4.2	4.2	1.3	1.5	-1.5	1.5	-0.8	1.5
	84	3.2	4.4	0.6	1.4	-1.8	1.4	-1.1	1.1
	85	2.5	4.4	0.9	1.5	-2.2	1.5	-1.3	1.0
	86	2.9	4.5	1.4	1.5	-1.4	1.3	-0.8	1.3
	87	3.7	4.9	2.1	1.6	-1.0	1.4	-0.7	1.7

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

Table 13: 10% REDUCTION IN ENERGY PRICES WITH FIXED MONEY SUPPLY

COUNTRY		USA	JAP	GER	FRA	UKM	ITA	CAN	SIMPLE
	YEAR	% differences from baseline							MEAN
GDP/GNP REAL :	83	0.0	0.3	0.2	0.2	0.1	0.2	-0.0	0.2
	84	0.2	0.6	0.5	0.5	0.4	0.6	0.1	0.4
	85	0.3	0.5	0.5	0.7	0.7	0.7	0.2	0.5
	86	0.2	0.1	0.4	0.8	0.8	0.4	0.2	0.4
	87	0.1	-0.3	0.4	0.8	0.6	0.1	0.3	0.3
PRIVATE CONSUMPTION REAL :	83	0.1	0.3	0.3	0.3	0.3	0.2	0.1	0.2
	84	0.2	0.7	0.6	0.5	0.6	0.5	0.3	0.5
	85	0.3	0.6	0.5	0.5	0.8	0.6	0.4	0.5
	86	0.2	0.2	0.4	0.5	0.9	0.4	0.4	0.4
	87	0.2	-0.1	0.3	0.5	0.8	0.2	0.4	0.3
TOTAL PRIVATE INVESTMENT :	83	0.1	0.6	0.5	0.3	0.4	0.6	-0.0	0.4
	84	0.6	1.0	0.9	1.1	1.2	1.3	0.1	0.9
	85	0.5	0.5	0.9	1.9	2.2	1.4	0.3	1.1
	86	0.4	-0.4	0.6	2.5	2.6	0.9	0.5	1.0
	87	0.5	-1.1	0.5	2.7	2.4	0.3	0.7	0.9
STOCKBUILDING (1) :	83	-0.0	-0.0	0.1	0.0	-0.0	-0.0	-0.0	-0.0
	84	0.0	-0.0	0.2	0.1	0.1	0.0	0.0	0.1
	85	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	86	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1
	87	0.0	0.0	-0.0	0.1	-0.1	-0.1	0.1	0.0
REAL FOREIGN BALANCE (1) :	83	-0.0	-0.0	-0.1	-0.1	-0.1	0.0	-0.0	-0.0
	84	-0.1	-0.0	-0.1	-0.1	-0.2	0.0	-0.1	-0.1
	85	-0.1	0.0	-0.1	-0.1	-0.2	0.0	-0.2	-0.1
	86	-0.1	0.0	0.0	-0.1	-0.2	0.0	-0.2	-0.1
	87	-0.1	-0.0	0.1	-0.2	-0.2	-0.0	-0.2	-0.1
GDP/GNP DEFLATOR :	83	-0.3	-0.5	-0.2	-0.5	-0.5	-0.4	-0.3	-0.4
	84	-0.4	-0.7	-0.5	-0.9	-1.2	-0.9	-0.6	-0.8
	85	-0.5	-0.6	-0.7	-1.1	-1.6	-1.1	-0.9	-0.9
	86	-0.6	-0.3	-0.8	-0.9	-1.3	-0.6	-1.0	-0.8
	87	-0.6	0.1	-0.9	-0.7	-1.0	-0.1	-1.1	-0.6
WAGE RATE :	83	-0.2	-0.3	-0.3	-0.6	-0.3	-0.5	-0.1	-0.3
	84	-0.3	-0.4	-0.5	-1.0	-1.1	-1.0	-0.4	-0.7
	85	-0.4	-0.4	-0.8	-1.1	-1.4	-1.0	-0.7	-0.8
	86	-0.6	-0.2	-1.0	-0.9	-1.2	-0.4	-0.9	-0.7
	87	-0.6	-0.1	-1.1	-0.6	-0.7	0.2	-1.0	-0.5
TOTAL EMPLOYMENT :	83	-0.1	-0.0	0.1	0.1	-0.0	0.0	-0.1	-0.0
	84	0.0	0.1	0.3	0.1	0.0	0.0	-0.1	0.1
	85	0.1	0.1	0.5	0.2	0.3	0.1	-0.0	0.2
	86	0.1	0.1	0.6	0.2	0.5	0.1	0.0	0.2
	87	0.0	0.0	0.6	0.2	0.6	0.1	0.1	0.2
UNEMPLOYMENT RATE (2) :	83	0.1	-0.0	-0.1	-0.0	0.0	-0.0	0.1	0.0
	84	-0.0	-0.0	-0.3	-0.1	-0.0	-0.0	0.1	-0.0
	85	-0.1	-0.0	-0.5	-0.1	-0.2	-0.1	0.0	-0.1
	86	-0.1	-0.0	-0.5	-0.1	-0.4	-0.1	-0.0	-0.2
	87	-0.0	-0.0	-0.5	-0.1	-0.4	-0.1	-0.0	-0.2
EXCHANGE RATE (effective) :	83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHORT-TERM INTEREST RATE (2) :	83	-0.1	-0.6	-0.4	-1.2	-0.4	-0.3	-0.6	-0.5
	84	-0.1	-0.1	-0.2	-1.4	-1.1	-0.3	-0.6	-0.6
	85	-0.1	0.3	-0.2	-1.2	-1.3	-0.1	-0.6	-0.5
	86	-0.2	0.4	-0.3	-0.5	-1.0	0.2	-0.6	-0.3
	87	-0.2	0.0	-0.3	-0.1	-0.6	0.3	-0.5	-0.2
GOVERNMENT FINANCIAL BALANCE (3) :	83	-0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.1
	84	0.1	0.2	0.3	0.5	0.2	0.4	0.1	0.3
	85	0.1	0.2	0.4	0.7	0.4	0.6	0.2	0.4
	86	0.1	0.2	0.4	0.8	0.6	0.6	0.2	0.4
	87	0.1	0.1	0.4	0.8	0.7	0.4	0.3	0.4
CURRENT BALANCE (U.S.$ billion) (2) :	83	3.8	3.9	1.2	1.4	-1.5	1.5	-0.8	1.4
	84	2.6	4.0	0.3	1.1	-2.1	1.3	-1.2	0.9
	85	1.9	4.1	0.7	1.2	-2.9	1.3	-1.5	0.7
	86	2.0	4.4	1.1	1.0	-2.6	1.0	-1.0	0.9
	87	2.4	5.0	1.6	0.9	-2.3	1.2	-1.0	1.1

1. % of baseline real GDP/GNP
2. level deviation from baseline
3. % deviation from baseline GDP/GNP

improvement over the period. Higher investment in turn stimulates both output supply and employment, resulting in a more favourable outcome for consumption and real GNP improves on average by 1/2 per cent by the third year. Given higher demand pressure, the net effect on prices and wages is to give marginally smaller reductions of about 3/4 per cent over most of the period. Relative movements in the government financial balance and current account are broadly consistent with prior expectations, given lower interest rates and less favourable improvements in the terms of trade.

II. MULTI-COUNTRY MODEL PROPERTIES

75. The single-country model properties described in the preceding section are by assumption conditional on unchanged circumstances outside the individual economies considered. The extension of the analysis to multi-country properties essentially concerns the endogenisation of "the rest of the world", allowing for both the spill-over of simulated effects for each individual country onto its trading partners and the further feedback from these to the country in which the shock is assumed to originate. International linkage effects are also of particular importance to the analysis of common shocks, where they may significantly amplify or modify the role of specific mechanisms identified as being of importance to single-country results. Before examining the multi-country properties of the current version of INTERLINK, for a variety of shocks, the following paragraphs outline the principal areas of interdependance featured in the model; those concerning international trade, commodity markets, investment income flows, exchange rates and financial markets.

76. With respect to economic activity and prices, the trade volume and price relationships provide the most direct transmission channels. For an individual country, import volumes are related in the model to weighted expenditure demands and price competitiveness. Allowing for the relative importance of individual markets to individual exporters, global import demands are then allocated through a set of export volume equations taking into account the pattern of market growth, the corresponding set of world trade elasticities and price competitiveness. Global consistency between import and export volumes is enforced by a combination of parameter restrictions across the set of export volume equations and the iterative allocation of discrepancies on a export shares basis (10).

77. Export prices for manufactured goods and non-factor services are determined in relation to domestic and imported costs and competitor prices, whilst food and basic raw material prices are linked directly to OECD export and exporter weighted world commodity price indices, with some influence also coming from domestic price levels (11). As described in Holtham and Durand (1987), world market prices for selected OECD and non-OECD weighted aggregate commodity groups are modelled as functions of the general OECD price level, oil prices, interest rates, exchange rates and also activity, measured in terms of OECD real GNP growth. In simulation, world energy prices are normally assumed to be fixed in relation to the world price of manufactures. Import prices are then related by country and trade category to corresponding "shadow" import price measures, constructed on the basis of market weighted

exporter prices. For manufactures and non-factor services, weight is also given to the influence of domestic prices in the importing country on profit margins, subject to a cross-equation global consistency constraint.

78. International investment income flows, exogenous in earlier published versions of the model, are now determined on the basis of the various relationships described in Coe et al. (1987). The principal features of this system, based largely on portfolio investment considerations, involve the determination of the effective yields on the asset and liability stocks of individual countries, taking into account portfolio composition and currency denomination, as well as the relevant domestic and foreign short- and long-term interest rates. Asset and liability stocks are determined on the basis of capital flows, cumulated from benchmark estimates, allowing also for the effects of currency-related revaluations.

79. In addition to the investment income system, the principal element of financial linkage in the model relates to exchange rate determination, as outlined in paragraph 15. The current system of equations permits the consistent determination of effective and bilateral exchange rates for the majority of OECD member countries, taking into account international interest rate differentials, relative price developments and current account performance. In fixed-exchange-rate mode, the relevant effective exchange rate relationships can be targeted to determine the required levels of official exchange market interventions. For a number of smaller member countries a further important element of financial linkage relates to short-term interest rates which are determined through estimated reaction-function relationships, adjusting to movements in financially weighted foreign short-term rates. In some of these country models allowance is also made for movements in money velocity.

Fiscal Policy Linkages

80. Fiscal policy multipliers obtained in multi-country mode, are reported for each of the major seven economies in Annex Tables A to C, based again on increases in government real non-wage expenditures, equivalent to 1 per cent of GNP. It is stressed that the precise direction of these shocks is essentially arbitrary and has no implications for the analysis of model properties. Two cases are considered for each country; the first with unchanged broad monetary aggregates and a floating exchange rate -- corresponding to a "pure" fiscal shock; the second assumes unchanged short-term interest rates and fixed exchange rates -- implying a mix of fiscal and monetary policy actions. Comparisons are also given with the corresponding unlinked multipliers reported in Tables 1 and 4 of the previous section.

81. With respect to real GNP, the "own country" multipliers obtained in multi-country solution are often higher than the corresponding unlinked values, but by very small amounts -- the maximum difference is 0.3 per cent, and this only occurs in one or two instances for the United States and Germany. Higher activity and import demand in the country taking action stimulates world activity and thereby the imports of trading partner countries, which are in turn export markets for that country. Hence the size of the net import leakage for a country taking fiscal action is marginally reduced relative to the single country case.

82. For the larger countries, the domestic price responses also tend to be larger, reflecting the international transmission of demand and price pressures to other countries and commodity markets. To the extent that the additional effects of linkage on domestic and foreign prices are of the same orders of magnitude, competitiveness is not in general adversely affected, and for those country models where price and costs are relatively less sensitive to demand pressure, notably for Japan and Germany, some relative improvements can occur. The impact of linkage on the current balance of the country taking action is generally favourable, giving a smaller simulated deterioration, reflecting the nature of the trade volume feedbacks.

83. Given higher levels of output and prices, the overall effect on the monetary sector is to strengthen the (underlying) pressures on money demand and, with an unchanged money supply, generally larger increases in interest rates are required to choke off the excess demand for money. The overall effect on exchange rates in multi-country mode largely depends on the balance of relative movements in interest rates and relative prices, and the present results imply marginally greater degrees of currency appreciation for each of the major economies except for the United States and Germany.

84. The corresponding price and GNP cross-multiplier results for other OECD country models, grouped also into sub-area regional categories, are shown in Annex Tables A and B. Depending, as they do, on the scale of import demand and the relative orders of magnitude of movements in prices, interest rates and total final expenditure in the countries taking action, the spill-over effects onto activity and prices in other countries are found to be generally smaller in the case of "pure" or non-accommodated fiscal shocks ie. with unchanged broad monetary aggregates. Thus for the case of a U.S. expansion, the simulated fifth year effect on real GNP for other OECD countries is 0.2 per cent with an unchanged money supply, compared with a value of 1.0 per cent obtained with monetary accommodation. Indeed, for a number of the smaller countries, the combination of higher short-term interest rates and associated appreciation against the dollar, in the non-accomodated case, actually exerts a negative influence on prices and real GNP in the longer run.

85. With the exception of the United States, the linkage effects of fiscal action by the individual major countries on other OECD members as a group are relatively small -- up to 0.1 per cent for real GNP and 0.3 per cent for prices. Within their own specific "spheres of influence", however, the effects on close trading partners are often quite significant, as for example with the response of the smaller European economies with respect to fiscal action by the larger European countries.

86. Given the relative importance of size considerations in the determination of linkage effects, a more revealing comparison is that between the simulated effects of fiscal action by the United States and those obtained for fiscal action by the other six major economies acting as a group (12). A summary of results for the corresponding non-accommodated fiscal expansion, assuming exchange rates also to be endogenously determined, is given in Table 14.

87. On the whole, these two sets of results reveal considerable degrees of symmetry as between the influence of the United States and other major seven economies on each other and also the smaller OECD member countries. Principal differences in response are found to lie in the relative size of the U.S. price response and also the relative weakness of its trade performance. The

TABLE 14: MULTIPLIER COMPARISONS FOR THE UNITED STATES AND THE OTHER MAJOR ECONOMIES AS A GROUP (1)

	A) INCREASE IN MAJOR SEVEN EX-U.S. EXPENDITURES					B) INCREASE IN U.S. EXPENDITURES				
year	1	2	3	4	5	1	2	3	4	5
	differences from baseline levels					differences from baseline levels				
USA										
REAL GNP (%)	0.2	0.3	0.2	0.2	0.1	1.2	1.0	0.6	0.6	0.5
GNP DEFLATOR (%)	0.0	0.2	0.5	0.8	1.2	0.3	1.1	1.8	2.5	3.3
TOTAL EMPLOYMENT(%)	0.0	0.2	0.1	0.1	0.1	0.5	0.6	0.3	0.2	0.1
CURRENT BALANCE (U.S.$ bn)	2.7	5.0	5.9	6.4	7.7	-9.8	-10.8	-12.1	-16.1	-19.9
SHORT-TERM RATE (PTS)	0.1	0.2	0.4	0.5	0.6	0.6	1.1	1.2	1.6	1.9
EFF.EXCHANGE RATE (%)	-0.3	-0.9	-1.2	-0.9	-0.7	0.0	-0.6	-1.1	-1.4	-1.8
OTHER MAJOR SEVEN										
REAL GNP (%)	1.1	1.4	1.1	0.6	0.4	0.2	0.4	0.4	0.2	0.1
GNP DEFLATOR (%)	0.0	0.4	0.8	1.3	1.7	0.1	0.1	0.2	0.3	0.5
TOTAL EMPLOYMENT(%)	0.3	0.5	0.5	0.4	0.3	0.1	0.2	0.2	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	-6.4	-6.5	-5.0	-4.5	-5.9	6.4	9.5	11.8	18.7	23.3
SHORT-TERM RATE (PTS)	0.7	1.8	2.1	2.0	2.0	0.2	0.6	0.7	0.8	1.0
OTHER OECD										
REAL GNP (%)	0.3	0.5	0.5	0.4	0.3	0.2	0.3	0.3	0.2	0.1
GNP DEFLATOR (%)	0.0	0.1	0.3	0.6	0.8	0.0	0.0	0.0	0.1	0.1
TOTAL EMPLOYMENT(%)	0.1	0.2	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	1.7	2.7	3.2	4.5	5.2	1.0	1.7	1.9	2.6	3.2
SHORT-TERM RATE (PTS)	0.3	0.4	0.6	0.6	0.7	0.2	0.4	0.5	0.6	0.8
TOTAL OECD										
REAL GNP (%)	0.6	0.8	0.6	0.4	0.3	0.6	0.6	0.5	0.4	0.3
GNP DEFLATOR (%)	0.0	0.3	0.6	1.0	1.3	0.1	0.5	0.8	1.2	1.6
TOTAL EMPLOYMENT(%)	0.2	0.4	0.4	0.3	0.2	0.2	0.3	0.2	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	-2.0	1.2	4.1	6.4	7.0	-2.4	0.4	2.2	5.2	6.6
SHORT-TERM RATE (PTS)	0.4	0.8	1.0	1.0	1.1	0.3	0.7	0.8	1.0	1.2

1. Simulated increase in real non-wage expenditures (1% of baseline real GNP/GDP) with unchanged money supply and endogenous exchange rates

effects of fiscal stimulus on U.S. wages and prices are roughly double those for the other major economies. For the U.S. model, this implies larger incipient competitiveness losses and, given generally higher import demand elasticities, a somewhat larger decline in real trade and current account balances. The combination of larger import leakages, more adverse price developments and above-average sensitivity to higher interest rates, tends to give a somewhat faster rate of crowding-out for the U.S. model compared with that for other major economy models. In both cases, smaller simulated increases in nominal U.S. interest rates and a sharper deterioration in relative prices combine to give an effective dollar depreciation.

88. Although of similar orders of magnitude, the simulated trade volume spill-over effects from the United States to the other major countries are proportionately larger than the reverse flow. Thus fiscal stimulus to the United States gives a lower "own country" multiplier and a higher "linkage" multiplier for the other major seven economies, compared to the effects of fiscal action by the latter group. Given higher "own-country" multipliers for the non-U.S. major economy groups and the underlying patterns of trade, the reverse is true for the effects on the smaller OECD economies, with a maximum real GNP effect of 0.5 per cent compared with 0.3 per cent in the case of the U.S. shock. Differences in the GNP responses for the total OECD areas are largely confined to the second and third years. The long-run improvement in the OECD area's current balance given in both cases reflects a combination of the gradual adjustment of non-OECD spending to higher levels of export revenue and also the effects of higher interest rates on their debt interest payments.

Monetary Policy Linkages

89. The importance of monetary linkages to INTERLINK's simulation properties arises more from the interaction between different monetary policy assumptions for individual countries than the simple spill-over effects from any single country's policy actions. Thus with a simulated 100 basis point reduction in the short-term interest rates in a single major country, the spill-overs to other OECD countries are, given independent monetary policies and endogenous exchange rates, relatively small and the differences in "own country" results for linked and unlinked solutions are negligible. With interdependant monetary and exchange rate policy assumptions, the model shows policy shocks for the major economies as exerting quite significant spill-over effects on other OECD countries.

90. To illustrate the consequences of monetary interdependance, two simulations are considered, each featuring a 100-basis-points reduction in U.S. short-term interest rates. In the first case, the monetary authorities of the other major economies are assumed to exactly match the movement in U.S. short-term rates, thereby maintaining baseline interest rate differentials and allowing exchange rates to adjust freely. In the second case, they are assumed to attempt to maintain effective exchange rates at baseline levels, through the influence of the money supply on short-term interest rates (13). Though similar in general orientation, the two simulations differ insofar as the exchange rate is determined in the model by inflation and current balance considerations, as well as international interest-rate differentials. A summary of results for these two shocks is given in Table 15.

91. In the first case, the simultaneous reduction of interest rates by the major countries assumed removes the dominant influence of currency depreciation on the simulation results, so that the direction and extent of movements in individual exchange rates for the larger countries are determined directly by relative price and trade performance. For given world prices this implies a relative dampening of inflationary pressures and the main domestic forces operating in the major country models more closely resemble those operating in single-country mode with fixed rather than floating exchange rates. But they are also overlaid with a trade-induced stimulus to activity and prices. For inflation, both of these additional factors tend to work in the same upward direction. Given the relatively slow speeds of adjustment of domestic prices to higher demand and also relatively small short-term price spill-overs, however, the direct influence of smaller or reversed exchange rate movements seems likely to dominate, leading to lower overall price responses.

92. To the extent that price increases for individual countries are therefore likely to be more damped, the falls in real interest rates and the cost of capital are also likely to be smaller, implying smaller substitution effects and a weaker stimulus to investment. Price moderation will however tend to limit the fall in the real wage and lead to some switch towards consumption. The absence of significant currency depreciation will tend to worsen trade competitiveness (compared with the unlinked simulation), although overall trade performance will also be influenced by higher export demand. Given these diverse factors, the sign of the net effects of linkage on the GNP and current balance responses in the individual major country models is therefore largely indeterminate.

93. The overall results, reported in Table 15, show a significant moderation in price effects, compared with the unlinked results of Table 5, reflecting the importance of the effects of interest rate-induced currency depreciation in those results. The gradual downward movement in the U.S. dollar over the period is exactly accounted for by the sharper simulated increases U.S. prices, which reflect the relatively quicker employment response and higher wage/unemployment elasticity in the U.S. model. Currency movements for the other major economies broadly mirror those of the dollar, although in effective terms the largest appreciations are those given for the smaller OECD countries, where interest rates are assumed to adjust more slowly.

94. Compared with the earlier unlinked results, the real GNP response for the United States is relatively unchanged, with an increase of 3/4 per cent from the third year. Its composition though is quite different, with consumption higher, the real trade contribution negative and the investment response smaller. For the other major economies GNP responses are generally larger, with an average increase of 1.0 per cent in the fourth and fifth years, reflecting the relative strength of spill-over effects from the United States. The effects of smaller price responses in the linked results significantly outweigh those of marginally larger increases in real GNP, giving generally smaller increases in money demand. In the absence of the significant improvement in competitiveness, the U.S. current balance deteriorates over the period, by amounts broadly consistent with Table 6. For the other major economies, however, the trade multiplier effects tend to outweigh the more adverse movements in competitiveness, giving generally smaller deteriorations in their respective current accounts.

TABLE 15: COMPARISON OF RESPONSES TO LOWER INTEREST RATES UNDER ALTERNATIVE MONETARY ASSUMPTIONS

	A) 100 BASIS POINT REDUCTION IN MAJOR SEVEN SHORT-TERM RATES					B) 100 BASIS POINT REDUCTION IN US SHORT-TERM RATES WITH EXCHANGE RATE TARGETS (1)				
year	1	2	3	4	5	1	2	3	4	5
	differences from baseline levels					differences from baseline levels				
USA										
REAL GNP(%)	0.2	0.6	0.8	0.7	0.8	0.1	0.6	0.7	0.6	0.6
GNP DEFLATOR (%)	0.1	0.4	1.1	2.1	3.2	0.0	0.4	1.0	1.8	2.7
TOTAL EMPLOYMENT(%)	0.1	0.4	0.6	0.5	0.5	0.1	0.4	0.5	0.4	0.4
CURRENT BALANCE (U.S.$ bn)	-3.4	-4.6	-4.7	-5.8	-6.7	-3.6	-4.9	-5.0	-6.3	-7.6
MONEY SUPPLY (BROAD%)	0.7	1.5	2.5	3.4	4.5	0.7	1.5	2.4	3.2	4.1
EFF.EXCHANGE RATE (%)	-0.1	-0.4	-1.0	-1.6	-2.4	0.0	0.0	0.0	0.0	0.0
OTHER MAJOR SEVEN										
REAL GNP (%)	0.2	0.5	0.7	0.9	1.1	0.2	0.6	0.9	1.4	1.6
GNP DEFLATOR (%)	0.0	0.1	0.3	0.6	0.9	0.0	0.1	0.3	0.7	1.2
TOTAL EMPLOYMENT(%)	0.0	0.1	0.2	0.4	0.5	0.0	0.1	0.3	0.6	0.8
CURRENT BALANCE (U.S.$ bn)	-1.6	-1.7	-1.4	-1.6	-1.9	-1.7	-2.8	-3.7	-5.7	-9.2
SHORT-TERM RATE (PTS)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.4	-1.8	-2.0	-2.4
MONEY SUPPLY (BROAD %)	0.6	1.3	2.0	2.6	3.2	0.6	1.6	2.8	4.2	5.8
OTHER OECD										
REAL GNP (%)	0.0	0.1	0.2	0.3	0.3	0.1	0.2	0.5	0.7	1.0
GNP DEFLATOR (%)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	0.6
TOTAL EMPLOYMENT(%)	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.3
CURRENT BALANCE (U.S.$ bn)	0.0	0.5	0.8	0.8	0.7	-0.2	0.2	0.5	0.6	0.8
SHORT-TERM RATE (PTS)	-0.4	-0.6	-0.8	-0.9	-1.0	-0.6	-1.0	-1.2	-1.6	-1.9
TOTAL OECD										
REAL GNP (%)	0.1	0.5	0.7	0.7	0.8	0.1	0.5	0.8	0.9	1.1
GNP DEFLATOR (%)	0.0	0.2	0.6	1.1	1.7	0.0	0.2	0.6	1.1	1.7
TOTAL EMPLOYMENT(%)	0.0	0.2	0.3	0.4	0.4	0.0	0.2	0.4	0.4	0.5
CURRENT BALANCE (U.S.$ bn)	-4.9	-5.8	-5.3	-6.6	-7.9	-5.5	-7.4	-8.2	-11.4	-15.9
SHORT TERM RATE (PTS)	-0.8	-0.9	-0.9	-0.9	-1.0	-0.7	-1.1	-1.3	-1.5	-1.8

1. Short-term interest rates in the non-U.S. major seven countries are used to target effective exchange rates

95. Given significant adjustment lags in the interest rate equations for the smaller countries, the reductions in their interest rates are generally smaller and their currencies tend to appreciate against those of the major economies. The simulated increases in real GNP for the smaller OECD countries therefore tend to be significantly smaller by comparison, at around 0.3 per cent, and slower to emerge. Higher exchange rates do however provide an effective barrier to price pressures coming from the major countries and, given higher levels of world trade, the overall effects on their current balances are also favourable. For the area as a whole, GNP increases by 3/4 per cent by the third year, with prices rising steadily over the period to be 1.7 per cent in the fifth year. The combination of higher activity and lower interest receipts from the non-OECD debtor nations however gives a deterioration $5 billion to $8 billion for the total OECD area current balance.

96. In the second case, interest rates in the other major countries have to match price differentials in order to achieve unchanged effective exchange rates for a given reduction in U.S. short-term rates. Given short-term interest yield differential terms which are close to unity in the current set of effective exchange rate equations, movements in interest rate and price differentials will be of the same orders of magnitude. Thus the gap between U.S. and non-U.S. interest rates of 100 and 140 basis points shown in the second panel of Table 14 are more or less exactly equivalent to the simulated price differential movements, implying significantly larger reductions in non-U.S. rates. Compared with the previous case, the absence of dollar depreciation implies generally smaller price increases, but also marginally smaller increases in real GNP for the United States, reflecting its more adverse trade competitiveness position. Given these factors, the degree of monetary expansion in the United States is reduced in the longer run.

97. For the other major economies, the larger reductions in interest rates provide a relative strengthening in investment responses, and real GNP is higher by an average 1.5 per cent in the fourth and fifth years, compared with the earlier value of 1 per cent. Stronger demand pressure and the absence of currency appreciation also puts more upward pressure on prices, and money demand is also significantly higher, given the combined effects of higher activity and prices and lower interest rates. The net effect on their current balances is generally adverse, given higher activity rates and larger import leakages. For the major seven group as a whole, the smaller overall increase in U.S. real GNP is more than compensated by the larger responses for the other countries.

98. The smaller OECD countries benefit too, from both the larger trade spill-over effects from the major economies and the larger reductions in domestic interest rates. For the OECD area as a whole, the GNP response is somewhat higher with exchange rate targets, increasing by 1 per cent in the last two years compared with the previous value of 3/4 per cent. The effect on prices for the area is identical in the two cases, reflecting the effective redistribution of price pressures from the United States to the other OECD countries. The effects of higher activity and larger overall reductions in OECD interest rates combine to give a sharper deterioration in the current balance for the area as a whole, from $5 billion to $16 billion over the period.

Multi-Country Exchange Rate Properties

99. As was stressed in the earlier section dealing with the channels of influence of exchange rates in the major country models, the single-country analysis of major currency movements is likely to be misleading, particularly in the case of a major trading nation. A change in country A's exchange rate vis-a-vis other currencies is quintessentially a multi-country issue, exerting divergent influences on both itself and its close trading partners. The more important that country A is, as a competitor in home and world markets, the greater will be the degree of international interdependance in the overall effects of a change in its currency. To the extent that such influence is exerted not only through the direct effects of relative price changes, but also through the indirect effects on inflation, profitability, output and demand, both at home and abroad, the corresponding international policy settings will also importantly modify the overall results.

100. To illustrate model properties with respect to a major currency change, Table 16 provides summary details of the simulated effects of a hypothetical 10 per cent depreciation of the dollar against all other OECD currencies, under alternative fiscal and monetary policy assumptions. As before, the shift in currency rates is sustained over a five-year period and is assumed to be exogenous, coming from "unexplained" movements in market sentiment rather than being policy induced. The experiment is therefore flawed by failing to take account of the endogenous influence of policy variables on market expectations and exchange rates. In effect, for a range of policy settings a five-year exogenous shift in the value of the U.S. dollar may be self-reversing, with divergent movements being generated in interest rates which are sufficient to offset the original shock (14). Put another way, with interest rates being determined by market forces a sustained shift in a major currency may require a cumulative deterioration in market expectations.

101. It is nonetheless useful to calibrate the effects of an exchange rate shock using a sustained shift in order to identify the relevant channels of transmission. The three cases considered are the exact multi-country counterparts of the single-country shocks considered earlier, involving different combinations of monetary and fiscal policy assumptions, this time applied on a global basis. The third case, with government non-wage expenditures and money supply assumed to be unchanged in nominal terms is similar to that discussed in Dean and Koromzay (1987), but involves a smaller change in parities and uses a more recent version of the model. Compared with the single-country results, the most important differences for the United States arise from the major impact of changes in the dollar and U.S. circumstances on activity and prices in the rest of the world, which also vary with alternative policies.

102. With unchanged real fiscal expenditures and unchanged short-term interest rates, dollar depreciation is seen to exert a significant downward influence on output and prices, both directly for close trading partners and indirectly, through its influence on world markets. Given the combination of competitiveness and trade multiplier effects, non-U.S. output is reduced by an average 1/2 per cent over much of the period. For Japan and Germany real GNP is reduced by up to 1 per cent, given higher overall export shares and also the higher weight of net exports in their GNP. Domestic prices outside the United States adjust downwards, by up to 3 per cent, given substantial reductions in import costs, competitor prices and also world commodity prices.

TABLE 16 : COMPARISON OF THE EFFECTS OF A 10% DOLLAR DEPRECIATION UNDER ALTERNATIVE POLICY ASSUMPTIONS

	A) UNCHANGED INTEREST RATES AND REAL NON-WAGE EXPENDITURES					B) UNCHANGED MONEY SUPPLY AND REAL NON-WAGE EXPENDITURES					C) UNCHANGED MONEY SUPPLY AND NOMINAL NON-WAGE EXPENDITURES				
YEAR	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	differences from baseline levels					differences from baseline levels					differences from baseline levels				
USA															
REAL GNP (%)	0.5	0.6	0.5	0.5	0.4	0.5	0.3	0.0	-0.1	-0.3	0.4	0.2	-0.2	-0.2	-0.5
GNP DEFLATOR (%)	0.3	1.3	2.5	3.9	5.5	0.2	1.2	1.9	2.8	3.5	0.2	1.1	1.7	2.5	3.1
REAL TRADE BALANCE(1)	0.4	0.7	0.7	0.6	0.4	0.4	0.7	0.8	0.8	0.7	0.4	0.8	0.9	1.0	0.9
TERMS OF TRADE (%)	-4.7	-3.5	-2.7	-1.5	-0.3	-4.7	-3.5	-2.9	-2.1	-1.4	-4.7	-3.5	-3.0	-2.3	-1.7
SHORT-TERM RATES (2)	.	.	.	.	.	0.3	0.8	1.0	1.4	1.7	0.2	0.6	0.8	1.1	1.3
MONEY SUPPLY (%)	0.1	0.7	1.5	2.6	3.9	.	.	.	.	.	.	.	.	.	.
CURRENT BALANCE (3)	-4.3	11.0	14.1	10.5	6.1	-4.1	12.6	17.4	16.1	14.7	-3.0	15.1	20.8	21.1	21.4
REST OF OECD															
REAL GNP (%)	-0.1	-0.3	-0.5	-0.7	-0.6	0.2	0.1	0.0	0.0	0.3	0.1	0.1	0.1	0.2	0.4
GNP DEFLATOR (%)	-0.3	-1.1	-1.8	-2.5	-3.1	-0.3	-1.1	-1.7	-2.2	-2.7	-0.3	-1.1	-1.7	-2.2	-2.6
SHORT-TERM RATES (2)	.	.	.	.	.	-0.4	-1.1	-1.3	-1.7	-1.7	-0.4	-1.0	-1.1	-1.4	-1.4
CURRENT BALANCE (3)	6.9	-11.0	-12.6	-9.4	-5.8	-6.5	-13.0	-16.9	-16.7	-16.8	5.2	-15.5	-20.1	-21.0	-22.7
TOTAL OECD															
REAL GNP (%)	0.2	0.1	-0.1	-0.2	-0.2	0.2	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.1
GNP DEFLATOR (%)	-0.1	-0.1	-0.1	0.1	0.3	-0.1	-0.2	-0.3	-0.2	-0.2	-0.1	-0.2	-0.3	-0.3	-0.3
CURRENT BALANCE (3)	2.6	0.0	1.5	1.1	0.2	2.4	-0.3	0.5	-0.6	-2.1	2.2	-0.5	0.7	0.1	-1.3
REAL GNP (%)															
JAPAN	-0.1	-0.4	-0.7	-1.0	-1.1	-0.1	-0.1	-0.1	-0.2	-0.1	0.0	0.1	0.1	-0.1	-0.1
GERMANY	0.2	0.1	-0.6	-1.1	-0.9	0.2	0.5	0.2	0.1	0.6	0.3	0.7	0.5	0.4	0.9
MAJOR SEVEN (EX US)	-0.1	-0.2	-0.5	-0.6	-0.2	0.0	0.1	0.1	0.1	0.4	0.0	0.1	0.3	0.3	0.6
OTHER OECD	-0.1	-0.5	-0.7	-0.7	-0.5	-0.1	-0.4	-0.5	-0.5	-0.2	0.0	-0.2	-0.3	-0.2	0.0
CURRENT BALANCE (3)															
JAPAN	2.9	-2.3	-2.7	-1.6	-0.1	2.7	-3.2	-4.5	-4.5	-4.6	2.5	-3.7	-4.9	-5.1	-5.5
GERMANY	1.9	-0.1	-0.9	0.3	0.9	1.9	-0.7	-1.9	-1.2	-1.1	1.7	-0.9	-2.1	-1.6	-1.9
MAJOR SEVEN (EX US)	8.5	-7.3	-9.6	-5.5	-2.1	7.8	-9.5	-13.3	-13.5	-13.0	7.0	-11.4	-15.5	-16.5	-18.1
OTHER OECD	-1.3	-3.7	-4.1	-3.9	-3.8	-1.3	-3.4	-3.6	-3.2	-2.9	-1.6	-4.1	-4.6	-4.5	-4.5

UNITS : (1) REAL TRADE BALANCE AS % OF REAL GNP (2) PERCENTAGE POINTS (3) CURRENT BALANCES IN BILLION DOLLARS

103. The feedbacks of these changes to the United States are important, with the multiplier effects of lower exports to the United States also reducing, albeit indirectly, the demand for U.S. goods. With respect to prices, the reduction in non-U.S. costs and prices implies a significant diminution of the short-term gains to U.S. competitiveness, coming from a lower exchange rate, and therefore some damping of the movements in U.S. import costs. Thus, both price and volume linkage effects work in the direction of reducing the benefits to U.S. trade. The simulated improvements in U.S. real GNP, trade and current account balances are all, therefore, reduced relative to those given by single-country analysis, whilst the upward pressure on U.S. prices is also partially offset. Over the full five-year period, the cumulative improvement in the U.S. current account balance is reduced from an unlinked value of $62 billion to $38 billion.

104. Given the divergent movements in prices, the simulated effects on the United States and the rest of the world, with an unchanged money supply, tend to work in opposite directions. In the United States higher prices tend to force up interest rates, by 100 to 150 basis points, through excess money demand, whilst for the other major economies interest rates fall as the result of disinflationary pressures. For the United States, domestic demand is therefore increasingly squeezed, with the result that the gains to output stemming from trade are fully offset by the end of the period and the level of real GNP is reduced in the fifth year by 0.3 per cent. At the same time though, U.S. demand for imports is also reduced. Lower interest rates in the rest of the world provide a positive stimulus to non-U.S. activity, fully offsetting for the area as a whole the original trade losses associated with lower U.S. imports. This in turn helps restore the original growth in U.S. markets. Even so, the linkage effects operating through the reduction in U.S. import and competitor prices are significant enough to reduce the overall benefits to the U.S. trade account relative to their single-country simulation values. Over the five-year period the cumulative improvement in the U.S. current balance is significantly larger, at $57 billion, than that in the previous case but is approximately $27 billion lower than the unlinked result.

105. With the additional assumption of unchanged nominal government expenditures, further stabilising features emerge, with fiscal policy being squeezed in the United States and relaxed elsewhere, according to overall price movements. For the United States the implied fiscal restriction operating through the usual fiscal multipliers gives a larger fall in domestic demand, thereby holding back import demand and further reducing pressure on price levels. Reduced nominal demand, at the same time, eases the degree of monetary restriction and moderates the increase in interest rates. For the non-U.S. countries, the fiscal expansion is slight and provides only a limited stimulus to demand and U.S. exports. The net effect of both these additional influences is to further improve the benefits to the U.S. current account, which shows a cumulative improvement of $75 billion over the period.

Cost and Price Linkages

A. Wage Moderation

106. An important limitation to the single-country analysis of changes in costs and prices is the extent to which the results may be dominated by cost and price competitiveness factors, particularly with respect to activity and employment. Indeed for those earlier versions of INTERLINK which excluded

supply sector responses to profitablity and costs, and also consumption responses to inflation, the favourable effects of improved competitiveness on the real trade balance obtained in single country analysis tended to offset an otherwise unfavourable balance of consumption and investment effects (15). In the context of a generalised disinflationary shock, coming for example from a general moderation in wage settlements, the role of trade competitiveness effects is significantly muted, mainly involving the marginal redistribution of world demand between countries on the basis of what are often relatively minor differences in price and cost responses. Of more importance, in an international context, are the benefits accruing from the global reinforcement of the downward pressures on costs and prices, through the simultaneous reduction of world price levels, and the activity spill-overs associated with higher levels of world trade. In multi-country mode therefore, the composition of simulated output gains to individual countries arising from disinflationary pressure is likely to shift away from higher net exports towards consumption and capital expenditures.

107. As an illustration of the relative importance of the above factors, Table 17 reports the results for a simulated 1 per cent ex-ante reduction in nominal wage rates in all OECD countries, with an unchanged broad money supply assumption (16). The corresponding single-country results are those reported in Table 11.

108. The most important feature of these results is the strength of the price linkage multipliers, with wages and prices for the major economies falling on average by 2 1/4 per cent and 1 3/4 per cent respectively over the five-year period. These movements compare with average wage and price responses of 1 1/4 per cent and 1 per cent obtained in the corresponding unlinked results. Given a quicker pass-through of changes in unit costs to trade prices and also the amplification of downward pressures through competitive forces, the downward path of the price linkage variables is significantly steeper than that of domestic value added deflators. Over the five-year period import prices for the major seven economies fall by 2 3/4 per cent.

109. Given a larger simulated fall in prices, reductions in interest rates are also found to be more durable, giving a more balanced improvement in factor costs and profitability, and therefore more beneficial effects on investment. For most countries the combined influence of lower costs and prices and higher levels of trade on output and employment are sufficient in themselves to give somewhat larger overall increases in activity and employment. For the combined major seven economies, both real GNP and employment show stable increases of 0.5 per cent from the third year on. The largest net improvements are those given for Germany, for which the model gives larger relative reductions in wages and prices. The output responses for the United States, Japan and Canada are negligibly different from the single-country results. In the absence of significant competitiveness gains, the results for real trade and current account balances are generally less favourable and, with higher domestic demand and lower interest rates, the combined current account for the major seven economies worsens by $6 billion per annum.

110. In spite of larger overall reductions in prices and wages, of 2 per cent to 2 1/2 per cent by the end of the period, the simulated benefits to real output and employment for the smaller OECD country group are somewhat smaller and slower to accrue. This result tends to reflect the slower overall

TABLE 17 : LINKED WAGE AND ENERGY PRICE SHOCKS

A) WAGE SHOCK : 1% EX-ANTE REDUCTION IN OECD WAGE RATES WITH UNCHANGED MONEY SUPPLY

differences from baseline levels

		USA	JAPAN	GERMANY	FRANCE	UK	ITALY	CANADA	MAJOR SEVEN	OTHER OECD	TOTAL OECD
REAL GNP											
(%)	1	0.0	0.3	0.3	0.3	0.0	0.1	0.0	0.1	0.0	0.1
	2	0.0	0.9	0.9	0.4	0.3	0.2	0.1	0.3	0.0	0.3
	3	0.2	1.3	1.1	0.6	0.6	0.4	0.3	0.5	0.1	0.4
	4	0.1	1.2	1.1	0.8	0.7	0.4	0.4	0.5	0.2	0.5
	5	0.2	0.8	1.4	1.0	0.8	0.4	0.5	0.5	0.3	0.5
EMPLOYMENT											
(%)	1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.2	0.0	0.1
	2	0.1	0.3	1.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2
	3	0.2	0.4	1.7	0.2	0.5	0.2	0.3	0.4	0.1	0.3
	4	0.2	0.4	2.2	0.3	0.7	0.2	0.3	0.5	0.1	0.4
	5	0.2	0.4	2.5	0.3	0.7	0.1	0.3	0.5	0.2	0.4
SHORT-TERM RATE											
(PTS)	1	-0.2	-1.2	-1.5	-1.9	-0.7	-0.5	-0.8	-1.0	-0.3	-0.5
	2	-0.4	-1.1	-1.6	-2.3	-1.6	-0.5	-1.1	-1.2	-0.5	-0.7
	3	-0.4	-0.5	-1.7	-2.4	-1.7	-0.5	-0.9	-1.1	-0.5	-0.7
	4	-0.5	-0.1	-1.9	-2.2	-1.6	-0.4	-1.0	-1.1	-0.6	-0.7
	5	-0.6	-0.2	-1.5	-2.0	-1.5	-0.3	-0.9	-1.0	-0.6	-0.7
CURRENT BALANCE											
($US B)	1	-0.8	-0.7	-0.7	-0.6	-0.6	-0.1	-0.1	-3.5	0.2	-3.3
	2	0.0	-1.7	-2.0	-0.4	-1.3	-0.1	-0.3	-5.8	0.7	-5.1
	3	0.7	-2.1	-1.9	-0.2	-2.0	-0.1	-0.5	-6.1	1.1	-5.1
	4	2.1	-2.7	-1.7	-0.2	-2.5	-0.1	-0.8	-5.9	1.1	-4.8
	5	1.8	-2.3	-1.0	-0.3	-2.8	0.0	-1.1	-5.7	1.0	-4.7
GNP DEFLATOR											
(%)	1	-0.4	-0.8	-0.7	-0.7	-0.7	-0.6	-0.5	-0.6	-0.5	-0.6
	2	-0.9	-1.7	-1.7	-1.3	-1.3	-1.2	-1.0	-1.2	-1.0	-1.2
	3	-1.0	-2.1	-2.6	-1.7	-1.6	-1.6	-1.4	-1.5	-1.5	-1.5
	4	-1.1	-2.1	-3.3	-1.9	-1.7	-1.7	-1.6	-1.6	-2.0	-1.7
	5	-1.2	-1.9	-3.7	-1.9	-1.7	-1.7	-1.7	-1.7	-2.3	-1.8
WAGE RATE											
(%)	1	-1.0	-1.5	-1.6	-1.3	-1.2	-1.3	-1.0	-1.1		
	2	-1.1	-2.1	-2.5	-1.7	-1.8	-1.8	-1.2	-1.5		
	3	-1.2	-2.3	-3.5	-2.1	-2.1	-2.0	-1.5	-1.7		
	4	-1.3	-2.3	-4.3	-2.2	-2.0	-2.0	-1.7	-1.8		
	5	-1.3	-2.3	-4.6	-2.2	-1.9	-1.7	-1.7	-1.9		
IMPORT PRICES											
(%)	1	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.5	-0.5		
	2	-1.2	-1.2	-1.3	-1.2	-1.2	-1.2	-1.0	-1.2		
	3	-1.7	-1.7	-1.8	-1.8	-1.7	-1.7	-1.4	-1.7		
	4	-2.5	-2.6	-2.3	-2.4	-2.2	-2.3	-1.8	-2.5		
	5	-2.8	-3.1	-2.6	-2.6	-2.5	-2.5	-2.1	-2.7		

B) ENERGY PRICE SHOCK : 10% REDUCTION IN TRADED ENERGY PRICES WITH UNCHANGED MONEY SUPPLY

REAL GNP											
(%)	1	0.0	0.2	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.0
	2	0.1	0.4	0.5	0.4	0.3	0.4	0.1	0.3	0.1	0.2
	3	0.2	0.5	0.8	0.7	0.8	0.7	0.2	0.4	0.1	0.4
	4	0.2	0.3	0.9	0.9	1.0	0.7	0.4	0.4	0.3	0.4
	5	0.2	0.2	0.9	1.0	1.0	0.5	0.6	0.4	0.4	0.4
EMPLOYMENT											
(%)	1	-0.2	-0.0	0.1	0.1	0.0	0.0	-0.1	-0.1	0.0	-0.1
	2	-0.1	0.1	0.4	0.1	0.0	0.0	-0.1	0.0	0.0	0.0
	3	0.0	0.1	0.8	0.1	0.2	0.1	-0.1	0.2	0.1	0.1
	4	0.1	0.1	1.2	0.2	0.6	0.1	0.1	0.2	0.1	0.2
	5	0.1	0.1	1.4	0.2	0.8	0.1	0.2	0.3	0.2	0.3
SHORT-TERM RATE											
(PTS)	1	-0.1	-0.6	-0.5	-1.1	-0.4	-0.3	-0.6	-0.5	-0.2	-0.4
	2	-0.2	-0.5	-0.8	-1.9	-1.3	-0.6	-1.0	-0.9	-0.3	-0.6
	3	-0.3	-0.3	-0.9	-2.4	-1.8	-0.6	-1.1	-1.1	-0.4	-0.8
	4	-0.4	-0.1	-0.8	-1.8	-1.5	-0.3	-1.1	-0.8	-0.4	-0.6
	5	-0.5	-0.1	-0.9	-1.4	-1.0	-0.1	-0.9	-0.7	-0.4	-0.6
CURRENT BALANCE											
($US B)	1	3.0	3.1	1.0	1.0	-1.7	1.3	-1.0	6.8	1.1	7.9
	2	1.4	2.4	-0.1	0.5	-2.4	0.8	-1.6	1.0	0.9	1.9
	3	0.4	1.6	-0.3	0.5	-3.5	0.7	-2.3	-2.8	0.9	-1.9
	4	1.3	0.6	-0.1	0.4	-3.8	0.3	-2.3	-3.7	0.9	-2.8
	5	1.3	1.0	1.0	0.3	-3.7	0.6	-2.5	-2.0	0.7	-1.3
GNP DEFLATOR											
(%)	1	-0.3	-0.4	-0.2	-0.4	-0.5	-0.4	-0.4	-0.4	-0.6	-0.4
	2	-0.5	-0.9	-0.7	-1.0	-1.3	-1.3	-0.8	-0.8	-1.4	-0.9
	3	-0.8	-1.0	-1.3	-1.6	-1.9	-2.0	-1.3	-1.1	-2.2	-1.3
	4	-1.0	-0.8	-1.8	-1.7	-1.9	-2.0	-1.7	-1.3	-2.6	-1.5
	5	-1.2	-0.5	-2.1	-1.6	-1.6	-1.6	-1.9	-1.3	-2.7	-1.6

adjustment of interest rates and also the absence of significant direct effects of profitabilty and inflation on investment and consumption expenditures in the smaller country models. Even so, this group of countries benefits from the spill-overs from the major economies and also enjoys an overall improvement in the current balance. For the OECD area in total, real GNP and employment improve by about 0.5 per cent in the latter half of the period.

B. Energy Prices

111. In addition to the major differences in competitiveness effects arising from a global as opposed to single-country change in costs, a further important linkage factor relevant to the analysis of the effects of energy price reductions is the impact of lower export revenues on the spending behaviour of the non-OECD energy producing countries. To the extent that import demand will be lower and competitiveness effects more or less absent, the trade benefits to net energy importers are likely to be significantly reduced and the overall assessment of activity and trade effects will depend crucially on the associated non-OECD spending assumptions (17). For present purposes the default model parameter values have been used, implying revenue pass-throughs of 60 per cent and 100 per cent over a two-year period for the low absorbers and other non-OECD energy producers. Section B of Table 17 reports a summary of simulated effects of a global 10 per cent reduction in traded energy prices, assuming also unchanged real non-wage government expenditures and money supply -- comparable with the single-country results of Table 13.

112. The international price transmission effects are again seen to be significant, giving larger overall reductions in prices for the major economies, averaging 1 1/4 per cent over the period, compared with the single country average of 0.8 per cent. To the extent that the effects of lower prices outweigh those of higher activity on ex-ante money demand, interest rates are also generally lower. Although the effect of lower demand from energy producers on trade is quite significant, it is more or less fully offset by the favourable influence of lower costs and prices on domestic demand and, for the major seven economies as a group, there are negligible differences for real GNP between linked and unlinked results. For the German model again, a better relative price performance tends to give a more favourable linkage effect, whilst for some countries the real GNP response obtained in linked solution is reduced slightly, in the second and third years. With respect to the current account, the results are uniformly less favourable compared with the single country results, reflecting the diminution of competitiveness effects and lower non-OECD import demand; for the major economies in aggregate, the benefits to net energy importers fail to fully offset the substantial losses for the net energy exporters, the United Kingdom and Canada, from the third year on.

113. As with the simulated wage reduction, the reductions in prices obtained for the smaller OECD countries, at around 2 1/2 per cent by the end of the period, are generally larger than those for the major seven economies but, with lower reductions in interest rates and relatively weak profit and wealth effects, the benefits to activity and employment are generally smaller and slower to emerge. For the total OECD area the current balance shows an improvement of $8 billion in the first year, but this is slowly eroded and eventually reversed over time, as area activity rises and exports to and net interest payments from the non-OECD countries are progressively reduced.

OECD and Non-OECD Linkages

114. The non-OECD countries are represented in the current version of INTERLINK in the limited form of trade and service account models for six broad groupings (18). Exports of goods by commodity and non-factor services are determined by commodity within the same overall framework as OECD exports, responding to changes in market growth and competitiveness. Imports are determined as a function of export revenues, adjusted for net transfers and debt interest payments, with spending coefficients and the associated speeds of adjustment varying across groups. With debt interest payments accounting for a high proportion of the current account deficits of many non-OECD countries and approximately 13 per cent of gross imports of the area, the recent inclusion of the investment income block provides an important strengthening of links between monetary conditions in the OECD countries and non-OECD behaviour. Further empirical work, however, remains to be done on the limiting influence of the debt burden and supply factors on the behaviour of net imports. Export prices for basic commodities are linked directly to the commodity price sector, adjusting proportionately to movements in exporter-weighted average UNCTAD commodity price indices. For manufactures, the non-OECD producers are assumed to be price takers, with export prices moving broadly in line with the corresponding average OECD price level. Energy prices are also assumed to be constant in real terms.

115. In spite of the relatively limited form of the non-OECD models, their general coverage is sufficient to demonstrate the quantitative importance of the interdependence between OECD and non-OECD countries. In this context, Table 18 provides a summary of two relevant simulations. The first examines the effects of a sustained 2 per cent increase in the level of non-OECD import volumes on principal OECD area aggregates; the second examines the reverse flows from a sustained 1 per cent increase in the level of OECD area real GNP (19). In both cases interest rates are assumed to be unchanged (20).

Higher Non-OECD Imports

116. The effects of a 2 per cent higher level of non-OECD imports are seen to be quantitatively quite important for the OECD area, with the level of real GNP higher by 0.3 per cent. The cross-country distribution of GNP effects largely reflects established patterns of trade with the non-OECD countries and the relative shares of exports in GNP. Given higher demand pressure, OECD prices rise steadily, by up to 0.6 per cent in the fifth year, exerting a moderating effect on the GNP response towards the end of the period. The terms of trade between the two regions are however relatively unaffected. In nominal terms, the United States, Japan and Germany account for about 60 per cent of the area current balance improvement, which is worth $10 billion to $12 billion per annum.

117. The overall results also show the feedback effects from the OECD area to be relatively substantial, with OECD import volumes rising by about 0.5 per cent and non-OECD export volumes increasing by 0.8 per cent. As a proportion of the value of the original increase in imports, non-OECD exports improve by approximately 35 per cent, implying a net deterioration in the current account of only 65 per cent.

Table 18: OECD/NON-OECD LINKAGES

year	1	2	3	4	5
	% differences from baseline levels				
A) EFFECTS OF A 2% HIGHER LEVEL OF NON-OECD IMPORTS					
NON-OECD AREA					
EXPORT VOLUMES	0.6	0.8	0.8	0.8	0.7
IMPORT VOLUMES	2.0	2.0	2.0	2.0	2.0
EXPORT PRICES	0.0	0.1	0.3	0.6	0.9
IMPORT PRICES	0.0	0.1	0.3	0.5	0.8
CURRENT BALANCE (U.S.$ bn)	-10.1	-9.2	-9.2	-11.7	-12.1
TOTAL OECD					
REAL GNP	0.2	0.3	0.3	0.3	0.3
GNP DEFLATOR	0.0	0.1	0.3	0.4	0.6
EMPLOYMENT	0.1	0.1	0.1	0.1	0.1
EXPORT VOLUMES	1.0	1.1	1.0	0.9	0.8
IMPORT VOLUMES	0.4	0.5	0.5	0.4	0.3
CURRENT BALANCE (U.S.$ bn)	10.1	9.6	9.9	12.1	13.0
REAL GNP					
USA	0.1	0.1	0.1	0.1	0.1
JAPAN	0.4	0.6	0.6	0.6	0.5
GERMANY	0.4	0.6	0.7	0.5	0.3
MAJOR SEVEN	0.2	0.3	0.3	0.3	0.2
OTHER OECD	0.3	0.3	0.3	0.3	0.3
CURRENT BALANCE (U.S.$ bn)					
USA	2.5	2.5	2.2	1.7	1.8
JAPAN	2.7	2.4	2.4	3.1	3.2
GERMANY	1.5	1.1	1.2	2.3	2.7
MAJOR SEVEN	8.8	8.1	8.2	9.9	10.5
OTHER OECD	1.3	1.4	1.7	2.2	2.5
B) EFFECTS OF A 1% HIGHER LEVEL OF OECD GNP					
NON-OECD AREA					
EXPORT VOLUMES	1.5	1.8	2.0	2.1	2.2
IMPORT VOLUMES	0.6	1.2	1.4	1.4	1.4
EXPORT PRICES	0.1	0.4	0.9	2.0	2.9
IMPORT PRICES	0.1	0.4	0.9	1.7	2.4
CURRENT BALANCE (U.S.$ bn)	6.4	4.1	3.0	2.0	2.0
TOTAL OECD					
REAL GNP	1.0	1.0	1.0	1.0	1.0
GNP DEFLATOR	0.1	0.7	1.3	2.0	2.9
EMPLOYMENT	0.3	0.5	0.5	0.5	0.5
EXPORT VOLUMES	1.5	1.7	1.8	1.9	1.9
IMPORT VOLUMES	1.9	1.9	2.0	2.1	2.1
CURRENT BALANCE (U.S.$ bn)	-6.3	-4.1	-3.3	-1.7	-2.1
CURRENT BALANCE (U.S.$ bn)					
USA	-5.6	-7.7	-10.1	-13.9	-17.4
JAPAN	1.0	2.5	3.6	6.0	7.5
GERMANY	1.2	2.0	2.6	4.5	5.6
MAJOR SEVEN	-5.4	-4.1	-4.3	-4.6	-6.6
OTHER OECD	-1.0	0.0	1.0	2.9	4.5

Note: Both simulations assume unchanged short-term interest rates and exchange rates

Higher OECD GNP

118. The results for a sustained higher level of GNP in all OECD countries provide some interesting contrasts to the above case. Given the shift in expenditures, OECD import volumes rise directly by 2 per cent, increasing the size of non-OECD export markets by approximately the same amount. Given the form of the import equations however, imports of the non-OECD area rise steadily, by 1.4 per cent in the third year, thereby reducing the size of the net improvement in the trade balance. In nominal terms the increase in imports by the third year is equivalent to 75 per cent of the higher export level and over two-thirds of the initial improvement in the non-OECD current balance is subsequently reversed. Given higher demand pressure in the OECD, commodity and traded goods prices rise broadly in line with OECD domestic prices over the period. Having remained relatively stable in the first three years, the non-OECD's terms of trade improve significantly thereafter. This effect is largely compositional and reflects a faster relative growth of energy prices and commodity prices more generally, towards the end of the period.

119. The distribution of the simulated deterioration in the OECD area current balance is interesting in that major benefits accrue to Japan, Germany and, to a lesser extent, the smaller OECD countries. This very much reflects the underlying geographical distribution of existing trade, relative price movements and different propensities to import. For the United States where a loss is simulated which is greater than that for the total OECD area, the essential point is that given the scale of its imports, a higher-than-average import elasticity and an overall deterioration in competitiveness, the additional import demand greatly exceeds the feasible improvements in exports. In effect, the scale of the simulated increases in U.S. imports is sufficiently large to stimulate net exports for both OECD and non-OECD regions.

NOTES

1. The version of the INTERLINK model considered is that of March 1987.

2. The choice of broad aggregate varies across countries. M2 measures are used for the United States and Italy; M2+ for Canada; M2+CD for Japan; M3 for France and Germany; and £M3 for the United Kingdom. Although short-term interest rates are formally exogenous in the major seven country models, an unchanged money supply path is achieved in simulation by the inversion of the relevant money demand function. In effect, for given GNP, prices and the demand-for-money relationship, the short-term interest rate is determined so as to clear the money market.

3. For details of the relevant response coefficients for the major seven economies in INTERLINK, see Table 8 in Richardson (1987).

4. The basic structure of the exchange rate system is broadly that described in Holtham (1984), although the system is now normalised with respect to effective exchange rates.

5. Import elasticities with respect to weighted expenditure for the United States are generally higher than those for other countries, but given a lower average import share, the marginal propensity is comparable in size to those for the major European economies.

6. The expected output scale elasticity is unity for all countries, the relative factor price elasticities for labour and the capital/energy bundle sum to the relevant "outer function" elasticity of substitution in the production function and are distributed according to the respective marginal products of each factor. See Jarrett and Torres (1987).

7. The treatment of the energy production sector in INTERLINK is not ideal. Although the current version of the model distinguishes a separate energy category for trade, and energy and non-energy value-added deflators are modelled individually within the price system, the behaviour of the energy supply sector is subsumed within the overall business sector level of aggregation of the supply blocks. The behaviour of the energy sector is therefore assumed to correspond to that of the "average" producer in its responses to changes in overall profitability and the cost of capital.

8. With the alternative assumption of government expenditures fixed in nominal terms, additional stimulus would also come from real fiscal expansion, as the relevant price deflator level falls.

9. For the United Kingdom and Canada an important omission in these estimates is the taxation and revenue aspects of the energy production sector.

10. Given the presence of global discrepancies in the reported data for a number of current account items, consistency is actually enforced in terms of marginal changes in trade rather than the actual levels. A useful discussion and survey of alternative approaches to the trade consistency issue is given by Italianer (1986).

11. The linking equations for food and basic raw material prices are described in Holtham et al. (1985).

12. In the period concerned the United States and the other six major economies account for approximately 40 per cent and 45 per cent of OECD GNP, respectively.

13. In effect short-term interest rates are endogenised through the renormalisation of the exchange rate equations, with monetary aggregates being driven by movements in real GNP, prices and interest rates through the corresponding demand for money equations.

14. An alternative experiment would be to simulate the effects of an exogenous ex-ante shift in market expectations, allowing alternative policy settings to determine the actual paths of exchange rates.

15. See for example Larsen et al. (1983), Table A8.

16. Government non-wage expenditures are assumed to be unchanged in real terms. With the alternative assumption of unchanged nominal expenditures, reductions in domestic price levels would imply an additional real-side fiscal stimulus.

17. See for example Larsen and Llewellyn (1983).

18. Non-OECD country groupings are based on economy characteristics rather than geographic considerations. The six groups featured relate to CPEC, distinguished by low and high absorbers, other oil producers, newly industrialised countries, low- and middle-income developing countries and the Soviet bloc.

19. The level of OECD GNP is assumed to be raised through higher government expenditures. Although the composition effects may be expected to vary with the use of alternative expenditure components, the actual differences in effects at the OECD area level of aggregation are fairly negligible.

20. The effects of interest rate changes on non-OECD investment income flows and current balances are summarised in Coe et al. Given a sustained 100 basis point increase in OECD long- and short-term interest rates over the period 1983 to 1987, block simulations show a cumulative current account deterioration of approximately $35 billion for the total non-OECD region.

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ANNEX

TABLES

ANNEX TABLE A : REAL EXPENDITURE INCREASE EQUIVALENT TO 1% OF GNP WITH FIXED MONEY SUPPLY AND FLOATING EXCHANGE RATES

		COUNTRY TAKING ACTION																					
		UNITED STATES			JAPAN			GERMANY			FRANCE			UNITED KINGDOM			ITALY			CANADA		
	YEAR	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV
		% differences from baseline																					
UNITED STATES	83	1.0	0.3	1.2	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
	84	1.9	1.1	1.0	0.5	0.0	0.1	0.6	0.1	0.1	0.2	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.1
	85	2.1	1.8	0.6	0.7	0.1	0.1	0.7	0.1	0.0	0.4	0.1	0.0	0.4	0.1	0.0	0.2	0.0	0.0	0.5	0.1	0.0
	86	2.4	2.5	0.6	0.8	0.2	0.0	0.6	0.2	0.0	0.5	0.1	0.0	0.4	0.1	0.0	0.2	0.1	0.0	0.6	0.1	0.0
	87	2.5	3.3	0.5	0.7	0.3	0.0	0.7	0.3	0.0	0.5	0.2	0.0	0.4	0.2	0.0	0.2	0.1	0.0	0.5	0.2	0.0
JAPAN	83	1.7	-0.1	0.3	0.1	-0.2	1.1	0.2	-0.0	0.0	0.1	-0.0	0.0	0.2	-0.0	0.0	0.1	-0.0	0.0	0.1	-0.0	0.0
	84	2.4	0.1	0.4	0.0	0.2	1.3	0.5	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0
	85	2.6	0.2	0.4	-0.3	0.6	0.9	0.6	0.1	0.1	0.3	0.0	0.0	0.3	0.1	0.0	0.1	0.0	0.0	0.2	0.0	0.0
	86	3.1	0.3	0.3	-0.5	0.9	0.3	0.6	0.1	0.0	0.4	0.1	0.0	0.3	0.1	0.0	0.2	0.0	0.0	0.2	0.0	0.0
	87	3.5	0.5	0.3	-0.4	1.0	-0.0	0.6	0.1	0.0	0.4	0.1	0.0	0.3	0.1	-0.0	0.1	0.0	0.0	0.2	0.1	0.0
GERMANY	83	0.9	0.0	0.2	0.1	0.0	0.0	0.2	0.1	0.9	0.3	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.0
	84	1.4	0.2	0.4	0.3	0.0	0.1	0.1	0.4	1.1	0.4	0.0	0.1	0.4	0.1	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	85	1.5	0.3	0.4	0.3	0.1	0.0	-0.2	0.5	0.7	0.5	0.1	0.1	0.3	0.1	0.1	0.3	0.1	0.1	0.1	0.0	0.0
	86	1.7	0.4	0.3	0.3	0.2	0.0	-0.3	0.4	0.5	0.6	0.1	0.1	0.3	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.0
	87	1.8	0.6	0.2	0.2	0.3	-0.0	-0.2	0.4	0.5	0.6	0.2	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.1	0.1	0.0
FRANCE	83	0.8	-0.0	0.1	0.1	-0.0	0.0	0.3	-0.0	0.0	0.1	-0.0	0.6	0.3	-0.0	0.0	0.2	-0.0	0.0	0.0	-0.0	0.0
	84	1.3	0.1	0.2	0.2	0.0	0.0	0.5	0.0	0.1	0.1	0.1	0.9	0.3	0.0	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	85	1.4	0.2	0.3	0.3	0.1	0.1	0.5	0.1	0.1	-0.0	0.3	1.1	0.3	0.1	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	86	1.5	0.3	0.4	0.3	0.1	0.0	0.4	0.2	0.1	-0.2	0.4	1.1	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	87	1.3	0.4	0.3	0.1	0.2	0.0	0.3	0.2	0.1	-0.3	0.6	1.0	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.0	0.0
UNITED KINGDOM	83	0.8	-0.0	0.2	0.1	-0.0	0.0	0.3	-0.0	0.1	0.1	-0.0	0.0	0.1	-0.0	0.9	0.1	-0.0	0.0	0.0	-0.0	0.0
	84	1.2	0.1	0.3	0.3	0.0	0.1	0.4	0.0	0.1	0.2	0.0	0.1	-0.0	0.1	0.9	0.2	0.0	0.0	0.1	0.0	0.0
	85	1.3	0.2	0.3	0.3	0.1	0.1	0.4	0.1	0.1	0.3	0.0	0.1	-0.3	0.3	0.5	0.2	0.0	0.0	0.1	0.0	0.0
	86	1.3	0.4	0.1	0.3	0.2	0.0	0.3	0.2	-0.0	0.3	0.1	0.0	-0.5	0.5	0.3	0.1	0.0	0.0	0.1	0.0	0.0
	87	1.2	0.5	0.1	0.1	0.2	-0.1	0.2	0.2	-0.1	0.3	0.1	0.0	-0.6	0.6	0.3	0.1	0.1	-0.0	0.1	0.1	-0.0
ITALY	83	0.7	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.9	0.0	0.0	0.0
	84	1.2	0.1	0.3	0.2	0.0	0.0	0.5	0.1	0.1	0.3	0.0	0.1	0.3	0.0	0.1	0.1	0.1	1.0	0.1	0.0	0.0
	85	1.3	0.3	0.3	0.3	0.2	0.0	0.5	0.2	0.1	0.4	0.1	0.1	0.2	0.1	0.0	0.1	0.3	1.0	0.1	0.0	0.0
	86	1.4	0.6	0.2	0.3	0.3	0.0	0.4	0.4	0.0	0.5	0.2	0.1	0.2	0.2	0.0	0.0	0.6	0.8	0.1	0.1	0.0
	87	1.3	0.9	0.2	0.1	0.4	-0.0	0.3	0.5	-0.0	0.4	0.3	0.1	0.1	0.3	-0.0	-0.1	1.1	0.6	0.1	0.1	0.0
CANADA	83	2.3	-0.0	0.4	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	0.8
	84	2.3	0.3	0.6	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.5	1.1
	85	2.2	0.8	0.3	0.2	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	-0.2	1.3	0.6
	86	2.3	1.2	0.1	0.2	0.2	0.0	0.1	0.2	-0.0	0.1	0.1	0.0	0.1	0.1	-0.0	0.1	0.0	0.0	-0.3	2.0	0.2
	87	2.3	1.7	-0.0	0.1	0.3	-0.1	0.1	0.2	-0.0	0.1	0.1	-0.0	0.0	0.2	-0.0	0.0	0.1	-0.0	-0.5	2.7	-0.0
MAJOR 7	83	1.1	0.2	0.7	0.1	-0.0	0.2	0.3	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1
	84	1.7	0.6	0.7	0.3	0.1	0.3	0.4	0.1	0.2	0.2	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.1
	85	1.9	1.0	0.5	0.3	0.2	0.2	0.4	0.2	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.2	0.1	0.1
	86	2.1	1.4	0.4	0.3	0.3	0.1	0.3	0.2	0.1	0.4	0.1	0.1	0.2	0.1	0.0	0.2	0.1	0.1	0.2	0.2	0.0
	87	2.1	1.9	0.3	0.2	0.4	-0.0	0.3	0.3	0.1	0.4	0.2	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.2	0.2	0.0
EEC	83	0.8	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.3	0.2	0.0	0.2	0.2	-0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0
	84	1.2	0.1	0.3	0.2	0.0	0.1	0.4	0.1	0.4	0.3	0.0	0.3	0.3	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.0
	85	1.3	0.2	0.3	0.3	0.1	0.1	0.3	0.2	0.3	0.4	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.0
	86	1.4	0.3	0.3	0.3	0.2	0.0	0.2	0.2	0.2	0.4	0.2	0.3	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0
	87	1.3	0.4	0.2	0.1	0.3	-0.0	0.2	0.3	0.1	0.3	0.3	0.3	0.0	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0
OECD EUROPE	83	0.7	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.3	0.2	0.0	0.2	0.3	-0.0	0.2	0.2	0.0	0.1	0.0	0.0	0.0
	84	1.2	0.1	0.3	0.2	0.0	0.1	0.4	0.1	0.3	0.3	0.0	0.2	0.3	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.0
	85	1.3	0.2	0.3	0.3	0.1	0.1	0.3	0.2	0.3	0.4	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.0
	86	1.3	0.3	0.3	0.3	0.2	0.1	0.2	0.2	0.1	0.4	0.2	0.3	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0
	87	1.2	0.4	0.2	0.1	0.3	0.0	0.2	0.3	0.1	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0
OECD TOTAL	83	1.0	0.1	0.6	0.1	-0.0	0.2	0.3	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0
	84	1.5	0.5	0.6	0.3	0.1	0.2	0.5	0.1	0.2	0.3	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.1
	85	1.6	0.8	0.5	0.3	0.2	0.2	0.4	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.2	0.1	0.1
	86	1.8	1.2	0.4	0.3	0.3	0.1	0.3	0.2	0.1	0.4	0.1	0.1	0.2	0.1	0.0	0.2	0.1	0.1	0.2	0.1	0.0
	87	1.8	1.6	0.3	0.2	0.4	0.0	0.3	0.2	0.1	0.4	0.2	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.2	0.2	0.0
OECD TOTAL -LESS THE COUNTRY TAKING ACTION	83	1.0	-0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	84	1.4	0.1	0.3	0.3	0.0	0.1	0.5	0.0	0.1	0.3	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0
	85	1.5	0.2	0.3	0.4	0.1	0.1	0.5	0.1	0.1	0.4	0.1	0.1	0.3	0.1	0.0	0.2	0.0	0.0	0.2	0.0	0.0
	86	1.6	0.3	0.2	0.4	0.2	0.1	0.4	0.2	0.0	0.4	0.1	0.1	0.2	0.1	0.0	0.2	0.0	0.0	0.2	0.1	0.0
	87	1.6	0.5	0.2	0.3	0.3	0.0	0.4	0.2	0.0	0.4	0.1	0.0	0.2	0.2	0.0	0.2	0.1	0.0	0.2	0.1	0.0

VARIABLE MNEMONICS : XGSV EXPORTS OF GOODS AND SERVICES VOLUMES
PGDP GDP/GNP DEFLATOR
GDPV REAL GDP/GNP

ANNEX TABLE A (CONTINUED) REAL EXPENDITURE INCREASE EQUIVALENT TO 1% OF GNP WITH FIXED MONEY SUPPLY AND FLOATING EXCHANGE RATES

		COUNTRY TAKING ACTION																		
		UNITED STATES			JAPAN			GERMANY			FRANCE			UNITED KINGDOM			ITALY			CANADA		
	YEAR	RGSV	RGDP	GDPV	RGSV	RGDP	GDPV	RGSV	RGDP	GDPV	RGSV	RGDP	GDPV	RGSV	RGDP	GDPV	RGSV	RGDP	GDPV	RGSV	RGDP	GDPV
		% differences from baseline																				
AUSTRALIA	83	0.5	0.0	0.1	0.4	-0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	-0.0	0.0	0.0	0.0	0.0
	84	0.8	-0.0	0.1	0.5	-0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	-0.0	0.0	0.1	0.0	0.0
	85	0.7	-0.1	-0.0	0.5	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	86	0.5	-0.2	-0.2	0.4	0.0	0.1	0.1	0.0	-0.0	0.2	0.0	0.0	0.1	0.0	-0.0	0.1	0.0	0.0	0.1	0.0	-0.0
	87	0.3	-0.3	-0.4	0.2	0.1	-0.0	0.1	0.1	-0.0	0.2	0.0	0.0	0.0	0.0	-0.0	0.1	0.0	0.0	0.0	-0.0	-0.0
AUSTRIA	83	0.6	-0.0	0.2	0.2	0.0	0.1	0.5	-0.0	0.2	0.1	-0.0	0.0	0.2	-0.0	0.1	0.2	-0.0	0.1	0.0	0.0	0.0
	84	0.9	-0.0	0.2	0.3	0.0	0.1	0.6	-0.0	0.1	0.2	-0.0	0.1	0.3	-0.0	0.1	0.3	-0.0	0.1	0.1	0.0	0.0
	85	1.0	-0.0	0.1	0.4	0.1	0.1	0.5	-0.0	0.0	0.3	0.0	0.1	0.2	0.0	0.0	0.3	-0.0	0.1	0.1	0.0	0.0
	86	1.0	-0.0	0.0	0.4	0.1	0.1	0.4	-0.0	-0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
	87	0.8	0.0	-0.1	0.2	0.1	0.1	0.4	-0.0	-0.0	0.3	0.0	0.0	0.1	0.0	-0.0	0.2	0.0	0.0	0.1	0.0	0.0
BELGIUM	83	0.7	0.0	0.3	0.1	0.0	0.0	0.5	-0.0	0.2	0.4	0.0	0.1	0.4	0.0	0.2	0.2	-0.0	0.1	0.0	0.0	0.0
	84	1.2	0.0	0.5	0.2	0.0	0.1	0.6	-0.0	0.2	0.5	0.0	0.2	0.5	0.0	0.2	0.3	-0.0	0.1	0.1	0.0	0.0
	85	1.3	-0.0	0.4	0.3	0.1	0.1	0.5	-0.1	0.2	0.7	0.0	0.3	0.4	0.0	0.2	0.3	0.0	0.1	0.1	0.0	0.0
	86	1.3	-0.0	0.4	0.2	0.2	0.1	0.4	-0.1	0.1	0.7	0.0	0.2	0.3	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	87	1.2	-0.0	0.3	0.1	0.2	0.1	0.4	-0.1	0.1	0.6	0.0	0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
DENMARK	83	0.5	0.0	0.1	0.1	0.0	0.0	0.3	-0.0	0.1	0.1	0.0	0.0	0.2	-0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.7	-0.0	0.1	0.2	0.0	0.0	0.3	-0.0	0.0	0.2	0.0	0.0	0.3	-0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	85	0.7	-0.2	-0.1	0.2	0.1	0.1	0.3	-0.0	-0.0	0.2	0.0	0.0	0.2	-0.0	-0.0	0.1	-0.0	0.0	0.1	0.0	0.0
	86	0.6	-0.3	-0.2	0.2	0.1	0.0	0.2	-0.0	-0.0	0.2	0.0	0.0	0.1	-0.0	-0.0	0.1	-0.0	0.0	0.1	0.0	-0.0
	87	0.5	-0.5	-0.2	0.1	0.1	-0.0	0.2	-0.0	-0.0	0.2	0.0	0.0	0.1	-0.1	-0.0	0.1	-0.0	-0.0	0.0	0.0	-0.0
FINLAND	83	0.5	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.0	0.2	0.4	0.2	0.1	0.1	0.5	0.1	0.2	0.3	0.1	0.1	0.4	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.4	0.6	0.6	0.4	0.2	0.2	0.5	0.3	0.2	0.4	0.2	0.1	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1
	86	1.6	1.1	0.6	0.3	0.3	0.2	0.5	0.4	0.2	0.4	0.2	0.1	0.3	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.1
	87	1.6	1.6	0.6	0.2	0.4	0.1	0.4	0.5	0.1	0.4	0.3	0.1	0.2	0.4	0.0	0.1	0.2	0.0	0.1	0.1	0.0
GREECE	83	0.6	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.9	0.1	0.2	0.2	0.0	0.1	0.4	0.1	0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0
	85	1.2	0.1	0.3	0.3	0.0	0.1	0.5	0.1	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	86	1.4	0.1	0.3	0.3	0.1	0.1	0.5	0.1	0.1	0.4	0.1	0.1	0.2	0.1	0.0	0.3	0.0	0.1	0.1	0.0	0.0
	87	1.5	0.2	0.2	0.2	0.1	0.1	0.5	0.1	0.1	0.4	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
ICELAND	83	0.4	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.7	0.0	0.1	0.1	0.0	0.0	0.4	0.1	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
	85	0.7	-0.1	0.0	0.1	0.0	0.0	0.3	0.1	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
	86	0.7	-0.2	-0.1	0.1	0.0	-0.0	0.3	0.1	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	-0.0	0.0
	87	0.8	-0.1	-0.2	0.0	0.0	-0.0	0.3	0.1	0.0	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	-0.0	-0.0
IRELAND	83	0.5	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.7	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.8	0.0	0.2	0.1	0.1	0.1	0.3	0.1	0.1	0.2	0.0	0.1	0.7	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0
	85	0.7	-0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.4	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0
	86	0.7	-0.0	-0.0	0.1	0.2	0.1	0.2	0.2	0.0	0.2	0.1	0.1	0.2	0.5	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	87	0.5	0.1	-0.1	-0.0	0.3	0.0	0.1	0.3	0.0	0.2	0.1	0.0	0.1	0.8	0.0	0.1	0.1	0.0	0.0	0.0	-0.0
NETHERLANDS	83	0.6	0.0	0.2	0.1	0.0	0.0	0.5	-0.0	0.2	0.2	0.0	0.1	0.3	-0.0	0.1	0.1	-0.0	0.0	0.0	0.0	0.0
	84	1.0	0.0	0.4	0.2	0.0	0.1	0.7	-0.0	0.3	0.3	0.0	0.1	0.4	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.1	0.1	0.5	0.3	0.1	0.1	0.5	0.0	0.2	0.4	0.0	0.2	0.3	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	86	1.1	0.1	0.5	0.2	0.2	0.1	0.4	-0.0	0.1	0.4	0.0	0.2	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	87	0.9	0.2	0.4	0.1	0.3	0.1	0.4	-0.0	0.1	0.4	0.1	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0
NEW ZEALAND	83	0.5	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.9	0.3	0.3	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0
	85	1.2	0.5	0.5	0.4	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.0
	86	1.3	0.8	0.6	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0
	87	1.4	1.1	0.7	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
NORWAY	83	0.6	-0.0	0.2	0.1	0.0	0.0	0.3	-0.0	0.1	0.1	0.0	0.0	0.5	0.0	0.2	0.1	-0.0	0.0	0.0	0.0	0.0
	84	0.9	-0.0	0.2	0.2	0.1	0.1	0.4	0.0	0.1	0.2	0.0	0.1	0.4	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
	85	0.8	-0.1	0.1	0.2	0.2	0.1	0.3	0.0	0.0	0.2	0.0	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	86	0.7	-0.2	-0.1	0.1	0.3	0.1	0.2	0.0	-0.0	0.2	0.1	0.1	0.2	0.1	-0.0	0.1	0.0	0.0	0.1	0.1	0.0
	87	0.6	-0.4	-0.4	0.0	0.4	0.1	0.2	-0.0	-0.1	0.2	0.1	0.1	0.2	0.1	-0.0	0.1	0.1	0.0	0.0	0.1	0.0
PORTUGAL	83	0.6	0.0	0.2	0.1	0.0	0.0	0.4	0.0	0.1	0.3	0.0	0.1	0.4	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.9	0.1	0.3	0.2	0.1	0.1	0.4	0.1	0.1	0.4	0.0	0.1	0.4	-0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.0	0.2	0.4	0.2	0.1	0.1	0.4	0.1	0.2	0.4	0.1	0.2	0.3	-0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	86	1.1	0.4	0.3	0.2	0.2	0.1	0.3	0.1	0.1	0.5	0.1	0.2	0.2	-0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0
	87	1.0	0.5	0.3	0.1	0.2	0.1	0.3	0.2	0.1	0.4	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0
SPAIN	83	0.6	-0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.7	-0.1	0.2	0.2	0.1	0.1	0.3	0.0	0.1	0.3	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	85	0.6	-0.3	0.1	0.3	0.2	0.1	0.3	0.1	0.1	0.4	0.1	0.1	0.3	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	86	0.5	-0.5	-0.0	0.3	0.3	0.1	0.3	0.1	0.1	0.5	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0
	87	0.4	-0.7	-0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.4	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.0	0.0
SWEDEN	83	0.7	0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.1	0.1	0.4	0.2	0.1	0.1	0.5	0.1	0.2	0.3	0.0	0.1	0.4	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.2	0.2	0.3	0.3	0.2	0.2	0.4	0.2	0.2	0.3	0.1	0.1	0.3	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1
	86	1.0	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.1	0.4	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0
	87	0.8	0.3	0.1	0.1	0.3	0.1	0.3	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0
SWITZERLAND	83	0.7	0.0	0.3	0.1	0.0	0.0	0.4	0.0	0.2	0.2	-0.0	0.1	0.2	0.0	0.1	0.2	-0.0	0.1	0.0	0.0	0.0
	84	1.2	0.1	0.5	0.3	0.0	0.1	0.6	0.1	0.3	0.4	0.0	0.2	0.3	0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.4	0.2	0.7	0.4	0.1	0.2	0.6	0.2	0.3	0.4	0.1	0.2	0.3	0.1	0.2	0.3	0.0	0.1	0.1	0.0	0.1
	86	1.5	0.5	0.8	0.4	0.2	0.2	0.5	0.3	0.3	0.5	0.1	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1
	87	1.3	0.8	0.7	0.2	0.2	0.2	0.4	0.4	0.2	0.4	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
TURKEY	83	0.4	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.7	0.0	0.2	0.2	0.0	0.1	0.3	0.1	0.1	0.2	0.0	0.0	0.2	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0
	85	0.8	0.0	0.2	0.2	0.0	0.1	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.1	-0.0	0.0
	86	0.9	0.0	0.2	0.2	0.1	0.0	0.4	0.3	0.1	0.3	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.0
	87	0.8	0.2	0.1	0.1	0.1	0.0	0.3	0.4	0.1	0.3	0.2	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.0	-0.0

ANNEX TABLE B : REAL EXPENDITURE INCREASE EQUIVALENT TO 1% OF GNP WITH FIXED INTEREST RATES AND FIXED EXCHANGE RATES

		COUNTRY TAKING ACTION																					
		UNITED STATES			JAPAN			GERMANY			FRANCE			UNITED KINGDOM			ITALY			CANADA			
	YEAR	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	XGSV	PGDP	GDPV	
		% differences from baseline																					
UNITED STATES	83	0.3	0.4	1.3	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	
	84	0.5	1.3	1.4	0.3	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.1	
	85	0.2	2.5	1.3	0.5	0.1	0.1	0.3	0.1	0.1	0.2	0.0	0.0	0.3	0.1	0.0	0.2	0.0	0.0	0.5	0.1	0.1	
	86	-0.3	4.0	1.3	0.7	0.2	0.1	0.3	0.1	0.1	0.3	0.1	0.0	0.3	0.1	0.1	0.2	0.1	0.0	0.5	0.2	0.1	
	87	-0.7	5.6	1.3	0.8	0.3	0.1	0.3	0.2	0.1	0.3	0.1	0.1	0.3	0.2	0.1	0.2	0.1	0.0	0.6	0.3	0.1	
JAPAN	83	1.7	-0.1	0.3	0.2	-0.2	1.2	0.2	-0.0	0.0	0.1	-0.0	0.0	0.2	-0.0	0.0	0.1	-0.0	0.0	0.1	-0.0	0.0	
	84	2.3	0.0	0.7	0.3	0.2	1.9	0.3	-0.0	0.1	0.1	-0.0	0.0	0.3	-0.0	0.1	0.1	-0.0	0.0	0.2	-0.0	0.0	
	85	2.8	0.3	1.0	0.2	0.9	2.1	0.4	0.0	0.1	0.2	0.0	0.1	0.3	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	
	86	3.4	0.8	1.3	-0.2	1.8	1.9	0.4	0.1	0.2	0.3	0.0	0.1	0.3	0.1	0.2	0.2	0.0	0.1	0.3	0.1	0.1	
	87	3.9	1.3	1.5	-0.7	2.5	1.5	0.4	0.2	0.2	0.4	0.1	0.1	0.4	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.1	
GERMANY	83	0.9	0.0	0.3	0.1	-0.0	0.0	0.2	0.1	1.0	0.3	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.0	
	84	1.4	0.2	0.6	0.2	0.0	0.1	0.3	0.7	1.7	0.4	0.1	0.2	0.5	0.1	0.2	0.3	0.0	0.1	0.1	0.0	0.0	
	85	1.9	0.6	0.9	0.4	0.1	0.2	0.3	1.3	1.7	0.6	0.1	0.3	0.5	0.2	0.3	0.3	0.1	0.2	0.1	0.0	0.1	
	86	2.4	0.9	1.1	0.5	0.2	0.2	0.1	1.3	1.2	0.7	0.2	0.3	0.5	0.3	0.2	0.4	0.1	0.2	0.2	0.1	0.1	
	87	2.8	1.2	1.1	0.6	0.3	0.3	-0.1	0.9	0.6	0.8	0.2	0.3	0.6	0.3	0.2	0.4	0.1	0.1	0.2	0.1	0.1	
FRANCE	83	0.8	-0.0	0.1	0.1	-0.0	0.0	0.4	-0.0	0.1	0.1	-0.0	0.6	0.3	-0.0	0.0	0.2	-0.0	0.0	0.0	-0.0	0.0	
	84	1.4	0.0	0.3	0.2	-0.0	0.0	0.6	0.0	0.1	0.2	0.2	1.0	0.4	0.0	0.1	0.3	0.0	0.1	0.1	0.0	0.0	
	85	1.9	0.2	0.5	0.4	0.0	0.1	0.8	0.1	0.2	0.3	0.5	1.3	0.5	0.1	0.1	0.4	0.0	0.1	0.1	0.0	0.0	
	86	2.3	0.5	0.6	0.5	0.1	0.1	0.7	0.2	0.2	0.3	0.9	1.5	0.5	0.1	0.2	0.4	0.1	0.1	0.2	0.0	0.0	
	87	2.7	0.8	0.8	0.6	0.2	0.2	0.5	0.3	0.2	0.1	1.3	1.6	0.5	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1	
UNITED KINGDOM	83	0.8	0.0	0.2	0.1	-0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.1	0.1	1.0	0.1	-0.0	0.0	0.0	-0.0	0.0	
	84	1.4	0.2	0.4	0.2	0.0	0.1	0.5	0.1	0.1	0.3	0.0	0.1	0.2	0.7	1.3	0.2	0.0	0.1	0.1	0.0	0.0	
	85	1.7	0.5	0.5	0.4	0.1	0.1	0.6	0.2	0.2	0.3	0.1	0.1	0.0	1.6	1.1	0.2	0.1	0.1	0.2	0.0	0.0	
	86	2.1	1.1	0.5	0.5	0.2	0.1	0.5	0.4	0.1	0.4	0.2	0.1	-0.4	2.4	0.8	0.2	0.1	0.1	0.2	0.1	0.0	
	87	2.3	1.8	0.5	0.5	0.4	0.1	0.3	0.5	0.1	0.5	0.3	0.1	-0.9	3.0	0.7	0.2	0.2	0.0	0.2	0.2	0.0	
ITALY	83	0.7	0.0	0.1	0.1	-0.0	0.0	0.3	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.9	0.0	0.0	0.0	
	84	1.2	0.1	0.3	0.2	-0.0	0.0	0.6	0.0	0.1	0.3	0.0	0.1	0.3	0.0	0.1	0.1	0.2	1.1	0.1	0.0	0.0	
	85	1.6	0.3	0.4	0.3	0.0	0.1	0.6	0.1	0.2	0.5	0.0	0.1	0.4	0.0	0.1	0.1	0.3	1.1	0.1	0.0	0.0	
	86	1.9	0.6	0.5	0.4	0.1	0.1	0.5	0.2	0.1	0.5	0.1	0.1	0.4	0.1	0.1	-0.0	0.6	0.9	0.2	0.1	0.0	
	87	2.1	1.0	0.5	0.5	0.2	0.1	0.4	0.3	0.1	0.6	0.1	0.1	0.4	0.3	0.1	-0.2	1.0	0.8	0.2	0.1	0.0	
CANADA	83	2.3	-0.0	0.4	0.1	-0.0	0.0	0.1	-0.0	0.0	0.0	-0.0	0.0	0.1	-0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	0.8	
	84	2.7	0.3	0.7	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.6	1.2	
	85	3.0	0.9	0.8	0.3	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	1.4	1.0	
	86	3.5	1.7	0.8	0.4	0.2	0.1	0.2	0.1	0.0	0.2	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.0	-0.2	2.2	0.7	
	87	4.0	2.7	0.9	0.4	0.3	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.0	-0.3	2.9	0.5	
MAJOR 7	83	0.9	0.2	0.7	0.1	-0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.1	
	84	1.4	0.7	1.0	0.3	0.0	0.4	0.4	0.1	0.2	0.2	0.0	0.1	0.3	0.1	0.2	0.2	0.0	0.1	0.2	0.0	0.1	
	85	1.6	1.4	1.0	0.4	0.2	0.4	0.4	0.2	0.3	0.3	0.1	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	
	86	1.8	2.3	1.1	0.4	0.4	0.4	0.4	0.3	0.2	0.4	0.2	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.3	0.2	0.1	
	87	1.9	3.4	1.2	0.4	0.6	0.4	0.3	0.3	0.2	0.4	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.1	0.3	0.3	0.1	
EEC	83	0.7	0.0	0.2	0.1	-0.0	0.0	0.3	0.0	0.3	0.2	0.0	0.2	0.3	0.0	0.2	0.2	0.0	0.2	0.0	0.0	0.0	
	84	1.3	0.1	0.4	0.2	0.0	0.1	0.6	0.2	0.6	0.3	0.1	0.3	0.4	0.1	0.4	0.2	0.0	0.2	0.1	0.0	0.0	
	85	1.7	0.4	0.6	0.4	0.1	0.1	0.6	0.4	0.6	0.5	0.2	0.4	0.4	0.4	0.4	0.3	0.1	0.2	0.1	0.0	0.0	
	86	2.1	0.7	0.7	0.5	0.1	0.2	0.5	0.5	0.5	0.6	0.3	0.5	0.4	0.6	0.3	0.3	0	0.2	0.2	0.1	0.1	
	87	2.5	1.1	0.8	0.5	0.3	0.2	0.3	0.5	0.3	0.6	0.4	0.5	0.3	0.8	0.3	0.2	0..	0.2	0.2	0.1	0.1	
OECD EUROPE	83	0.7	0.0	0.2	0.1	-0.0	0.0	0.3	0.0	0.3	0.2	0.0	0.2	0.3	0.0	0.2	0.2	0.0	0.1	0.0	0.0	0.0	
	84	1.3	0.1	0.4	0.2	0.0	0.1	0.6	0.2	0.5	0.3	0.1	0.3	0.4	0.1	0.3	0.2	0.0	0.2	0.1	0.0	0.0	
	85	1.7	0.4	0.6	0.4	0.1	0.1	0.6	0.3	0.6	0.5	0.2	0.4	0.4	0.3	0.3	0.3	0.1	0.2	0.1	0.0	0.0	
	86	2.1	0.7	0.7	0.5	0.1	0.2	0.5	0.4	0.4	0.5	0.3	0.4	0.4	0.5	0.3	0.3	0.2	0.2	0.2	0.1	0.1	
	87	2.4	1.0	0.8	0.5	0.3	0.2	0.3	0.5	0.3	0.6	0.4	0.5	0.3	0.7	0.3	0.2	0.2	0.2	0.2	0.1	0.1	
OECD TOTAL	83	0.8	0.1	0.7	0.1	-0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	
	84	1.3	0.6	0.9	0.3	0.0	0.3	0.4	0.1	0.2	0.2	0.0	0.1	0.3	0.1	0.2	0.2	0.0	0.1	0.2	0.0	0.1	
	85	1.6	1.2	1.0	0.4	0.2	0.4	0.5	0.2	0.3	0.3	0.1	0.2	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	
	86	1.9	2.0	1.0	0.5	0.4	0.4	0.4	0.3	0.2	0.4	0.1	0.2	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.1	
	87	2.0	2.9	1.1	0.5	0.6	0.4	0.3	0.3	0.2	0.5	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.1	0.3	0.3	0.1	
OECD TOTAL -LESS THE COUNTRY TAKING ACTION	83	1.0	-0.0	0.2	0.1	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	
	84	1.6	0.1	0.5	0.3	0.0	0.1	0.5	0.0	0.1	0.3	0.0	0.1	0.4	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.0	
	85	2.0	0.4	0.7	0.4	0.1	0.1	0.5	0.1	0.1	0.4	0.0	0.1	0.4	0.1	0.1	0.2	0.0	0.1	0.2	0.0	0.1	
	86	2.4	0.7	0.9	0.5	0.2	0.1	0.5	0.2	0.1	0.4	0.1	0.1	0.4	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.1	
	87	2.7	1.2	1.0	0.6	0.3	0.2	0.4	0.3	0.1	0.5	0.1	0.1	0.4	0.2	0.1	0.2	0.1	0.1	0.3	0.2	0.1	

VARIABLE MNEMONICS : XGSV EXPORTS OF GOODS AND SERVICES VOLUMES
PGDP GDP/GNP DEFLATOR
GDPV REAL GDP/GNP

ANNEX TABLE B (CONTINUED) : REAL EXPENDITURE INCREASE EQUIVALENT TO 1% OF GNP WITH FIXED INTEREST RATES AND FIXED EXCHANGE RATES

		COUNTRY TAKING ACTION																					
		UNITED STATES			JAPAN			GERMANY			FRANCE			UNITED KINGDOM			ITALY			CANADA		
	YEAR	MCSV	FCDP	GDPV	MCSV	FCDP	GDPV	MCSV	FCDP	GDPV	MCSV	FCDP	GDPV	MCSV	FCDP	GDPV	MCSV	FCDP	GDPV	MCSV	FCDP	GDPV
		% differences from baseline																					
AUSTRALIA	83	0.5	0.0	0.1	0.4	-0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	-0.0	0.0	0.1	-0.0	0.0	0.0	0.0	0.0
	84	1.0	0.0	0.3	0.7	-0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
	85	1.3	0.1	0.4	0.8	0.0	0.2	0.3	0.0	0.1	0.2	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
	86	1.6	0.3	0.7	1.0	0.1	0.3	0.3	0.1	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.0
	87	2.1	0.6	1.0	1.1	0.2	0.4	0.3	0.1	0.1	0.3	0.0	0.1	0.3	0.1	0.2	0.2	0.0	0.1	0.2	0.0	0.1
AUSTRIA	83	0.6	-0.0	0.2	0.2	-0.0	0.1	0.6	-0.0	0.2	0.1	-0.0	0.0	0.2	-0.0	0.1	0.2	-0.0	0.1	0.0	-0.0	0.0
	84	1.2	0.0	0.4	0.3	0.0	0.1	1.0	-0.0	0.3	0.3	-0.0	0.1	0.4	-0.0	0.1	0.3	-0.0	0.1	0.1	0.0	0.0
	85	1.7	0.1	0.6	0.5	0.0	0.2	1.1	0.0	0.4	0.4	0.0	0.1	0.5	0.0	0.2	0.4	0.0	0.1	0.1	0.0	0.0
	86	2.1	0.2	0.8	0.7	0.1	0.2	0.9	0.1	0.4	0.5	0.0	0.2	0.5	0.1	0.2	0.4	0.0	0.1	0.2	0.0	0.1
	87	2.4	0.5	1.1	0.8	0.1	0.3	0.7	0.2	0.3	0.5	0.1	0.2	0.5	0.1	0.2	0.3	0.1	0.1	0.2	0.0	0.1
BELGIUM	83	0.7	0.0	0.3	0.1	-0.0	0.0	0.5	0.0	0.2	0.4	0.0	0.2	0.4	0.0	0.2	0.2	0.0	0.1	0.0	0.0	0.0
	84	1.4	0.1	0.6	0.2	0.0	0.1	0.9	0.0	0.4	0.6	0.0	0.3	0.6	0.0	0.3	0.3	0.0	0.1	0.1	0.0	0.0
	85	1.9	0.3	0.9	0.4	0.0	0.2	1.1	0.1	0.5	0.8	0.1	0.4	0.7	0.1	0.3	0.4	0.0	0.2	0.1	0.0	0.1
	86	2.3	0.5	1.1	0.5	0.1	0.2	1.0	0.2	0.5	1.0	0.1	0.4	0.7	0.2	0.3	0.4	0.1	0.2	0.2	0.0	0.1
	87	2.6	0.9	1.2	0.5	0.2	0.3	0.8	0.3	0.4	1.0	0.1	0.4	0.7	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1
DENMARK	83	0.5	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.9	0.1	0.2	0.2	0.0	0.0	0.5	0.0	0.1	0.2	0.0	0.0	0.4	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
	85	1.3	0.2	0.3	0.3	0.0	0.1	0.6	0.1	0.1	0.3	0.0	0.1	0.5	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0
	86	1.6	0.3	0.4	0.4	0.1	0.1	0.5	0.1	0.1	0.3	0.0	0.1	0.5	0.1	0.1	0.2	0.0	0.0	0.1	0.0	0.0
	87	1.9	0.6	0.5	0.5	0.1	0.1	0.4	0.2	0.1	0.4	0.1	0.1	0.5	0.2	0.1	0.2	0.0	0.0	0.2	0.1	0.0
FINLAND	83	0.6	0.0	0.2	0.1	-0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.1	0.2	0.4	0.2	0.0	0.1	0.6	0.1	0.2	0.3	0.0	0.1	0.5	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.7	0.5	0.6	0.4	0.1	0.1	0.8	0.2	0.3	0.4	0.1	0.1	0.6	0.2	0.2	0.3	0.1	0.1	0.2	0.0	0.1
	86	2.1	0.9	0.7	0.5	0.2	0.2	0.7	0.4	0.2	0.5	0.2	0.1	0.6	0.3	0.2	0.3	0.1	0.1	0.2	0.1	0.1
	87	2.4	1.4	0.7	0.6	0.3	0.2	0.5	0.5	0.1	0.5	0.2	0.1	0.6	0.5	0.2	0.2	0.2	0.1	0.2	0.1	0.1
GREECE	83	0.6	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.0	0.1	0.2	0.3	0.0	0.1	0.5	0.1	0.1	0.2	0.0	0.1	0.3	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.3	0.1	0.3	0.5	0.1	0.1	0.7	0.1	0.2	0.4	0.0	0.1	0.4	0.1	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	86	1.6	0.1	0.3	0.6	0.1	0.1	0.7	0.1	0.2	0.5	0.1	0.1	0.4	0.1	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	87	1.7	0.1	0.3	0.5	0.1	0.1	0.6	0.1	0.2	0.6	0.1	0.1	0.4	0.1	0.1	0.3	0.1	0.1	0.2	0.0	0.0
ICELAND	83	0.3	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.6	0.1	0.3	0.1	0.1	0.1	0.4	0.1	0.2	0.2	0.0	0.1	0.3	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.0
	85	0.7	0.1	0.4	0.2	0.1	0.1	0.5	0.1	0.2	0.2	0.1	0.1	0.3	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	86	0.7	0.1	0.4	0.2	0.1	0.1	0.4	0.2	0.2	0.3	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0
	87	0.8	0.1	0.4	0.2	0.1	0.1	0.3	0.2	0.2	0.3	0.1	0.1	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0
IRELAND	83	0.5	0.1	0.2	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.7	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.9	0.2	0.4	0.2	0.0	0.1	0.4	0.1	0.2	0.2	0.0	0.1	0.9	0.2	0.4	0.1	0.0	0.1	0.1	0.0	0.0
	85	1.2	0.5	0.5	0.3	0.1	0.1	0.5	0.2	0.2	0.3	0.1	0.1	0.9	0.6	0.4	0.2	0.0	0.1	0.1	0.0	0.1
	86	1.5	0.9	0.7	0.3	0.2	0.2	0.4	0.3	0.2	0.4	0.1	0.1	0.7	1.4	0.3	0.2	0.1	0.1	0.2	0.1	0.1
	87	1.6	1.6	0.8	0.4	0.4	0.2	0.3	0.5	0.1	0.4	0.2	0.1	0.4	2.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1
NETHERLANDS	83	0.6	0.0	0.2	0.1	-0.0	0.0	0.5	0.0	0.2	0.2	0.0	0.1	0.3	0.0	0.1	0.1	-0.0	0.0	0.0	0.0	0.0
	84	1.1	0.0	0.5	0.2	0.0	0.1	0.9	0.0	0.4	0.4	0.0	0.2	0.5	-0.0	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.6	0.2	0.8	0.3	0.0	0.1	1.0	0.1	0.5	0.5	0.0	0.2	0.6	0.0	0.3	0.3	0.0	0.1	0.1	0.0	0.1
	86	1.9	0.5	0.9	0.5	0.1	0.2	0.9	0.2	0.4	0.6	0.1	0.3	0.6	0.1	0.3	0.3	0.0	0.1	0.2	0.0	0.1
	87	2.2	0.9	1.0	0.5	0.2	0.2	0.6	0.4	0.3	0.7	0.1	0.3	0.5	0.3	0.3	0.3	0.1	0.1	0.2	0.1	0.1
NEW ZEALAND	83	0.5	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.9	0.3	0.4	0.4	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0
	85	1.3	0.5	0.5	0.6	0.2	0.2	0.3	0.1	0.1	0.2	0.0	0.1	0.3	0.1	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	86	1.5	0.6	0.5	0.7	0.2	0.3	0.3	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0
	87	1.8	0.9	0.7	0.8	0.3	0.3	0.2	0.2	0.1	0.3	0.1	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
NORWAY	83	0.7	0.0	0.3	0.1	-0.0	0.0	0.4	0.0	0.1	0.1	0.0	0.0	0.5	0.0	0.2	0.1	-0.0	0.0	0.0	0.0	0.0
	84	1.1	0.2	0.5	0.2	0.0	0.1	0.6	0.1	0.3	0.2	0.0	0.1	0.6	0.1	0.3	0.1	0.0	0.1	0.1	0.0	0.0
	85	1.3	0.5	0.7	0.3	0.1	0.1	0.6	0.2	0.3	0.3	0.1	0.1	0.5	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.1
	86	1.6	0.9	0.8	0.4	0.2	0.2	0.4	0.4	0.2	0.3	0.1	0.1	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1
	87	1.9	1.5	1.0	0.4	0.4	0.2	0.3	0.5	0.2	0.4	0.2	0.2	0.5	0.5	0.3	0.1	0.1	0.1	0.2	0.1	0.1
PORTUGAL	83	0.6	0.0	0.2	0.1	0.0	0.0	0.4	0.0	0.1	0.3	0.0	0.1	0.4	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.1	0.2	0.3	0.2	0.0	0.1	0.6	0.1	0.2	0.4	0.0	0.1	0.6	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.5	0.5	0.5	0.3	0.1	0.1	0.7	0.2	0.3	0.5	0.1	0.2	0.7	0.2	0.2	0.3	0.1	0.1	0.1	0.0	0.0
	86	1.8	0.8	0.6	0.4	0.2	0.2	0.6	0.3	0.2	0.6	0.1	0.2	0.7	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1
	87	2.1	1.1	0.7	0.5	0.3	0.2	0.5	0.3	0.2	0.7	0.2	0.2	0.6	0.3	0.2	0.3	0.1	0.1	0.2	0.1	0.1
SPAIN	83	0.6	0.0	0.1	0.1	-0.0	0.0	0.2	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.1	0.2	0.3	0.2	0.0	0.1	0.4	0.1	0.1	0.3	0.0	0.1	0.4	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.6	0.4	0.5	0.4	0.1	0.1	0.6	0.1	0.2	0.5	0.1	0.1	0.4	0.1	0.1	0.3	0.0	0.1	0.1	0.0	0.0
	86	2.0	0.7	0.6	0.5	0.2	0.1	0.5	0.2	0.2	0.6	0.1	0.2	0.5	0.2	0.2	0.3	0.1	0.1	0.2	0.1	0.1
	87	2.4	1.2	0.7	0.6	0.3	0.2	0.4	0.3	0.1	0.7	0.2	0.2	0.5	0.3	0.2	0.3	0.1	0.1	0.2	0.1	0.1
SWEDEN	83	0.7	0.0	0.2	0.1	-0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	84	1.3	0.2	0.5	0.2	0.0	0.1	0.6	0.1	0.2	0.3	0.0	0.1	0.6	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0
	85	1.8	0.5	0.7	0.4	0.1	0.1	0.7	0.2	0.3	0.4	0.1	0.1	0.6	0.1	0.2	0.2	0.0	0.1	0.2	0.0	0.1
	86	2.1	0.8	0.9	0.5	0.2	0.2	0.6	0.3	0.3	0.5	0.1	0.2	0.6	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1
	87	2.4	1.3	1.1	0.5	0.3	0.3	0.4	0.4	0.2	0.5	0.2	0.2	0.5	0.4	0.3	0.2	0.1	0.1	0.2	0.1	0.1
SWITZERLAND	83	0.7	0.0	0.3	0.1	-0.0	0.0	0.4	-0.0	0.2	0.2	-0.0	0.1	0.2	-0.0	0.1	0.2	-0.0	0.1	0.0	-0.0	0.0
	84	1.4	0.1	0.6	0.3	0.0	0.1	0.8	0.0	0.3	0.4	0.0	0.2	0.4	0.0	0.2	0.3	0.0	0.1	0.1	0.0	0.0
	85	1.8	0.2	0.9	0.4	0.0	0.2	0.9	0.1	0.4	0.5	0.0	0.2	0.5	0.1	0.2	0.3	0.0	0.1	0.2	0.0	0.1
	86	2.1	0.5	1.1	0.6	0.1	0.3	0.7	0.2	0.4	0.6	0.1	0.3	0.5	0.1	0.2	0.3	0.1	0.1	0.2	0.0	0.1
	87	2.3	1.0	1.3	0.6	0.2	0.3	0.4	0.4	0.3	0.6	0.2	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.1
TURKEY	83	0.4	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	84	0.7	0.0	0.2	0.2	0.0	0.1	0.4	0.1	0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0
	85	0.8	-0.1	0.3	0.3	0.1	0.1	0.5	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0
	86	0.9	-0.2	0.3	0.4	0.1	0.1	0.4	0.2	0.1	0.3	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	-0.0	0.0
	87	0.9	-0.3	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.4	0.1	0.1	0.2	0.2	0.0	0.2	0.1	0.0	0.1	-0.0	0.0

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

UNITED STATES	year	1	2	3	4	5
		% differences from baseline levels				
A) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES						
United States						
REAL GNP	L	1.2	1.0	0.6	0.6	0.5
	S	1.1	0.8	0.5	0.5	0.4
GNP DEFLATOR	L	0.3	1.1	1.8	2.5	3.3
	S	0.3	1.0	1.5	2.1	2.7
CURRENT BALANCE (U.S.$ bn)	L	-9.8	-10.8	-12.1	-16.1	-19.9
	S	-11.3	-13.9	-15.4	-18.6	-22.1
SHORT-TERM RATE (PTS)	L	0.6	1.1	1.2	1.6	1.9
	S	0.6	1.0	1.1	1.3	1.6
EXCHANGE RATE (EFFECTIVE)	L	0.0	-0.6	-1.1	-1.4	-1.8
	S	-0.1	-0.1	-0.6	-1.3	-1.7
REST OF OECD						
REAL GNP	L	0.2	0.4	0.3	0.2	0.2
GNP DEFLATOR	L	0.0	0.1	0.2	0.3	0.5
CURRENT BALANCE (U.S.$ bn)	L	7.4	11.2	14.3	21.3	26.5
SHORT-TERM RATE (PTS)	L	0.2	0.4	0.6	0.7	0.8
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES						
United States						
REAL GNP	L	1.3	1.4	1.3	1.3	1.3
	S	1.2	1.3	1.1	1.1	1.0
GNP DEFLATOR	L	0.4	1.3	2.5	4.0	5.6
	S	0.3	1.2	2.3	3.5	4.8
MONEY SUPPLY (BROAD)	L	0.3	1.2	2.2	3.4	4.8
	S	0.3	1.2	2.0	3.1	4.2
CURRENT BALANCE (U.S.$ bn)	L	-11.4	-14.6	-17.1	-23.2	-29.7
	S	-12.7	-17.3	-20.2	-25.8	-33.6
REST OF OECD						
REAL GNP	L	0.2	0.5	0.7	0.9	1.0
GNP DEFLATOR	L	0.0	0.1	0.4	0.7	1.2
CURRENT BALANCE (U.S.$ bn)	L	6.8	9.7	13.3	21.1	26.7

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

JAPAN	year	1	2	3	4	5
		% differences from baseline levels				
B) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES						
JAPAN						
REAL GNP	L	1.1	1.3	0.9	0.3	0.0
	S	1.1	1.2	0.9	0.3	0.0
GNP DEFLATOR	L	-0.2	0.2	0.6	0.9	1.0
	S	-0.2	0.2	0.5	0.8	0.9
CURRENT BALANCE (U.S.$ bn)	L	-2.0	-2.4	-2.7	-3.1	-3.4
	S	-2.1	-2.8	-3.3	-3.8	-4.1
SHORT-TERM RATE (PTS)	L	0.7	1.9	1.9	1.4	0.9
	S	0.7	1.8	1.8	1.3	0.7
EXCHANGE RATE (EFFECTIVE)	L	0.5	1.2	1.4	0.8	0.0
	S	0.4	1.1	1.3	0.7	0.0
REST OF OECD						
REAL GNP	L	0.0	0.1	0.1	0.1	0.0
GNP DEFLATOR	L	0.0	0.0	0.1	0.2	0.3
CURRENT BALANCE (U.S.$ bn)	L	0.7	1.3	2.2	3.5	4.2
SHORT-TERM RATE (PTS)	L	0.0	0.1	0.2	0.2	0.2
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES						
JAPAN						
REAL GNP	L	1.2	1.9	2.1	1.9	1.5
	S	1.2	1.8	2.0	1.8	1.4
GNP DEFLATOR	L	-0.2	0.2	0.9	1.8	2.5
	S	-0.2	0.2	0.9	1.7	2.4
MONEY SUPPLY (BROAD)	L	0.3	1.8	3.4	4.7	5.2
	S	0.3	1.7	3.3	4.4	4.9
CURRENT BALANCE (U.S.$ bn)	L	-2.3	-3.5	-4.4	-5.5	-7.6
	S	-2.4	-3.8	-4.9	-6.4	-8.8
REST OF OECD						
REAL GNP	L	0.0	0.1	0.1	0.1	0.2
GNP DEFLATOR	L	0.0	0.0	0.1	0.2	0.3
CURRENT BALANCE (U.S.$ bn)	L	1.0	2.0	3.0	4.5	5.9

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

GERMANY	year	1	2	3	4	5
		% differences from baseline levels				
B) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES						
GERMANY						
REAL GNP	L	0.9	1.1	0.7	0.4	0.5
	S	0.9	1.0	0.7	0.4	0.5
GNP DEFLATOR	L	0.1	0.4	0.5	0.4	0.4
	S	0.1	0.4	0.4	0.3	0.2
CURRENT BALANCE (U.S.$ bn)	L	-2.1	-2.5	-2.8	-4.0	-4.7
	S	-2.4	-3.0	-3.2	-4.9	-5.6
SHORT-TERM RATE (PTS)	L	0.9	1.7	1.2	0.6	0.7
	S	0.9	1.5	1.0	0.4	0.5
EXCHANGE RATE (EFFECTIVE)	L	0.4	0.7	0.6	0.2	0.1
	S	0.4	0.8	0.7	0.3	0.2
REST OF OECD						
REAL GNP	L	0.1	0.1	0.1	0.0	0.0
GNP DEFLATOR	L	0.0	0.0	0.1	0.2	0.2
CURRENT BALANCE (U.S.$ bn)	L	2.4	4.3	5.2	6.5	7.2
SHORT-TERM RATE (PTS)	L	0.1	0.2	0.2	0.2	0.2
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES						
GERMANY						
REAL GNP	L	1.0	1.7	1.8	1.2	0.6
	S	1.0	1.5	1.5	0.9	0.5
GNP DEFLATOR	L	0.1	0.7	1.3	1.3	0.9
	S	0.1	0.7	1.1	1.1	0.6
MONEY SUPPLY (BROAD)	L	0.4	1.7	2.9	3.2	2.7
	S	0.4	1.5	2.6	2.8	2.2
CURRENT BALANCE (U.S.$ bn)	L	-2.6	-3.7	-4.1	-4.7	-5.0
	S	-2.8	-4.2	-4.7	-5.5	-5.9
REST OF OECD						
REAL GNP	L	0.0	0.1	0.1	0.1	0.1
GNP DEFLATOR	L	0.0	0.0	0.1	0.2	0.3
CURRENT BALANCE (U.S.$ bn)	L	1.8	3.1	3.8	4.4	5.0

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

FRANCE	year	1	2	3	4	5
		% differences from baseline levels				
B) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES						
FRANCE						
REAL GNP	L	0.6	0.9	1.1	1.1	1.0
	S	0.6	0.9	1.1	1.0	0.9
GNP DEFLATOR	L	0.0	0.1	0.3	0.4	0.6
	S	0.0	0.1	0.2	0.4	0.6
CURRENT BALANCE (U.S.$ bn)	L	-1.6	-2.3	-3.1	-4.5	-5.4
	S	-1.7	-2.5	-3.4	-4.9	-5.7
SHORT-TERM RATE (PTS)	L	0.5	1.0	1.5	1.8	2.0
	S	0.5	1.0	1.4	1.7	1.9
EXCHANGE RATE (EFFECTIVE)	L	0.2	0.5	0.9	1.0	1.1
	S	0.2	0.5	0.9	0.9	0.9
REST OF OECD						
REAL GNP	L	0.0	0.1	0.1	0.1	0.0
GNP DEFLATOR	L	0.0	0.0	0.1	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	L	1.3	2.2	3.4	5.3	6.5
SHORT-TERM RATE (PTS)	L	0.0	0.0	0.1	0.2	0.2
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES						
FRANCE						
REAL GNP	L	0.6	1.0	1.3	1.5	1.6
	S	0.6	1.0	1.3	1.4	1.5
GNP DEFLATOR	L	0.0	0.2	0.5	0.9	1.3
	S	0.0	0.2	0.5	0.9	1.2
MONEY SUPPLY (BROAD)	L	0.1	0.6	1.1	1.7	2.2
	S	0.1	0.6	1.1	1.6	2.0
CURRENT BALANCE (U.S.$ bn)	L	-1.7	-2.4	-3.2	-4.5	-5.8
	S	-1.8	-2.6	-3.4	-5.0	-6.3
REST OF OECD						
REAL GNP	L	0.0	0.1	0.1	0.1	0.1
GNP DEFLATOR	L	0.0	0.0	0.0	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	L	1.2	1.9	2.6	4.2	5.4

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

UNITED KINGDOM	year	1	2	3	4	5
		% differences from baseline levels				
B) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES						
UNITED KINGDOM						
REAL GNP	L	0.9	0.9	0.5	0.3	0.3
	S	0.9	0.8	0.4	0.3	0.3
GNP DEFLATOR	L	0.0	0.1	0.3	0.5	0.6
	S	0.0	0.1	0.3	0.4	0.5
CURRENT BALANCE (U.S.$ bn)	L	-2.2	-2.8	-2.6	-3.2	-3.8
	S	-2.3	-3.1	-3.0	-3.6	-4.2
SHORT-TERM RATE (PTS)	L	0.9	1.6	1.3	1.2	1.4
	S	0.9	1.5	1.2	1.1	1.3
EXCHANGE RATE (EFFECTIVE)	L	0.5	1.1	1.1	0.8	0.7
	S	0.5	1.0	1.0	0.7	0.5
REST OF OECD						
REAL GNP	L	0.0	0.1	0.0	0.0	0.0
GNP DEFLATOR	L	0.0	0.0	0.1	0.1	0.2
CURRENT BALANCE (U.S.$ bn)	L	1.9	2.6	2.7	3.4	4.0
SHORT-TERM RATE (PTS)	L	0.0	0.1	0.2	0.2	0.2
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES						
UNITED KINGDOM						
REAL GNP	L	1.0	1.3	1.1	0.8	0.7
	S	0.9	1.2	1.0	0.8	0.7
GNP DEFLATOR	L	0.1	0.7	1.6	2.4	3.0
	S	0.1	0.7	1.5	2.3	2.7
MONEY SUPPLY (BROAD)	L	0.2	0.9	1.6	2.2	2.7
	S	0.2	0.9	1.5	2.1	2.5
CURRENT BALANCE (U.S.$ bn)	L	-2.4	-3.2	-3.3	-4.1	-5.2
	S	-2.4	-3.4	-3.5	-4.4	-5.5
REST OF OECD						
REAL GNP	L	0.0	0.1	0.1	0.1	0.1
GNP DEFLATOR	L	0.0	0.0	0.1	0.1	0.2
CURRENT BALANCE (U.S.$ bn)	L	1.8	2.7	2.8	3.7	4.7

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

ITALY	year	1	2	3	4	5
		% differences from baseline levels				
B) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES						
ITALY						
REAL GNP	L	0.9	1.0	1.0	0.8	0.6
	S	0.9	1.0	0.9	0.7	0.6
GNP DEFLATOR	L	0.1	0.1	0.3	0.6	1.0
	S	0.1	0.1	0.3	0.6	1.0
CURRENT BALANCE (U.S.$ bn)	L	-1.5	-2.0	-2.0	-2.2	-2.3
	S	-1.6	-2.0	-2.1	-2.3	-2.4
SHORT-TERM RATE (PTS)	L	0.3	0.3	0.4	0.5	0.6
	S	0.3	0.3	0.4	0.5	0.6
EXCHANGE RATE (EFFECTIVE)	L	0.0	0.0	-0.2	-0.4	-0.7
	S	0.0	0.0	-0.2	-0.4	-0.7
REST OF OECD						
REAL GNP	L	0.0	0.0	0.1	0.1	0.1
GNP DEFLATOR	L	0.0	0.0	0.0	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	L	1.1	1.7	2.0	2.5	2.7
SHORT-TERM RATE (PTS)	L	0.0	0.0	0.1	0.1	0.1
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES						
ITALY						
REAL GNP	L	0.9	1.1	1.1	0.9	0.8
	S	0.9	1.1	1.0	0.9	0.8
GNP DEFLATOR	L	0.1	0.2	0.3	0.6	1.0
	S	0.1	0.1	0.3	0.6	0.9
MONEY SUPPLY (BROAD)	L	0.3	0.7	1.1	1.6	2.0
	S	0.3	0.7	1.1	1.6	2.0
CURRENT BALANCE (U.S.$ bn)	L	-1.5	-2.0	-2.2	-2.6	-3.0
	S	-1.6	-2.1	-2.3	-2.7	-3.2
REST OF OECD						
REAL GNP	L	0.0	0.0	0.1	0.1	0.1
GNP DEFLATOR	L	0.0	0.0	0.0	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	L	1.0	1.5	1.8	2.4	2.8

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP

ANNEX TABLE C : SUMMARY MULTIPLIERS FOR SELECTED FISCAL SHOCKS (1)

		year	1	2	3	4	5
			% differences from baseline levels				
B) FISCAL SHOCK WITH UNCHANGED MONEY SUPPLY AND FLOATING EXCHANGE RATES							
CANADA							
REAL GNP	L		0.8	1.1	0.6	0.2	0.0
	S		0.8	1.1	0.6	0.2	0.0
GNP DEFLATOR	L		0.0	0.5	1.3	2.0	2.7
	S		0.0	0.5	1.3	2.0	2.7
CURRENT BALANCE (U.S.$ bn)	L		-0.9	-1.9	-2.3	-2.6	-3.0
	S		-0.9	-2.0	-2.4	-2.7	-3.1
SHORT-TERM RATE (PTS)	L		0.4	1.6	1.9	2.1	2.2
	S		0.4	1.6	1.9	2.1	2.2
EXCHANGE RATE (EFFECTIVE)	L		0.2	0.6	0.5	0.0	-0.6
	S		0.2	0.6	0.4	-0.1	-0.7
REST OF OECD							
REAL GNP	L		0.0	0.0	0.0	0.0	0.0
GNP DEFLATOR	L		0.0	0.0	0.0	0.1	0.1
CURRENT BALANCE (U.S.$ bn)	L		0.7	1.8	2.4	2.9	3.2
SHORT-TERM RATE (PTS)	L		0.0	0.0	0.0	0.1	0.1
B) FISCAL SHOCK WITH UNCHANGED SHORT-TERM INTEREST RATES AND EXCHANGE RATES							
CANADA							
REAL GNP	L		0.8	1.2	1.0	0.7	0.5
	S		0.8	1.2	1.0	0.7	0.5
GNP DEFLATOR	L		0.0	0.6	1.4	2.3	2.9
	S		0.0	0.6	1.4	2.2	2.9
MONEY SUPPLY (BROAD)	L		0.2	1.2	2.3	3.1	3.8
	S		0.2	1.2	1.1	1.6	2.0
CURRENT BALANCE (U.S.$ bn)	L		-0.9	-1.8	-2.4	-3.1	-4.0
	S		-0.9	-1.9	-2.5	-3.2	-4.2
REST OF OECD							
REAL GNP	L		0.0	0.0	0.1	0.1	0.1
GNP DEFLATOR	L		0.0	0.0	0.0	0.1	0.2
CURRENT BALANCE (U.S.$ bn)	L		0.7	1.4	2.0	2.5	3.3

L = Linked simulation S = Single-country simulation

1. Increase in government real non-wage expenditures equal to 1% of baseline real GNP