12

Analyzing Properties of the MC Model

12.1 Introduction

The properties of the MC model are examined in this chapter. This chapter is the counterpart of Chapter 11 for the US model. As was the case with Chapter 8 versus 9, however, this chapter contains fewer different types of experiments than did Chapter 11. In particular, since no stochastic simulation of the MC model is done in this study (see the discussion in Section 9.2), none of the experiments that require stochastic simulation are performed.

Section 12.2 contains a general discussion of the properties of the MC model. It is similar to Section 11.2 for the US model in that it tries to give a general idea of the properties of the model before examining the multiplier experiments. The rest of the chapter is a discussion of multiplier experiments. The detailed results are presented and discussed in Section 12.3, and a summary of the major properties of the model is presented in Section 12.4. The main exogenous variable for each country is the level of government spending. Table 12.1 shows the effects on all the countries of an increase in U.S. government spending (an increase in COG). Table 12.2 shows how sensitive the properties of the US model are to its being imbedded in the MC model. Finally, Table 12.3 presents results from 32 multiplier experiments, one per country (except the United States). The experiment for each country is a change in the country's government spending. Each experiment is done within the context of the complete MC model, so that all the effects on and from the other countries are taken into account. To save space, only the effects on the own country are

presented in Table 12.3. These three tables are discussed in Section 12.3.

12.2 A General Discussion of the MC Model's Properties

The properties of each country's model by itself are similar to the properties of the US model in the sense that, whenever possible, the specification of the US equations was used to guide the specification of the other countries' equations. Much of the discussion of the US model in Section 11.2 is thus relevant here, and this discussion will not be repeated. Be aware, however, that an important difference between the US model and the other models is that the other models do not have an income side. This means that tax and transfer changes cannot be analyzed in the other models, whereas they can in the US model. Another difference is that consumption is disaggregated into three categories in the US model but not in the other models. Also, fixed investment is disaggregated into residential and non residential in the US model but not in the other models. While these differences are not trivial, they do not take away from the fact that the general features of the other models are similar to those of the US model.

The main focus of the discussion in this section is on how the countries are linked together—how they affect each other. The effects on and of a country's exchange rate and balance of payments are also discussed. Keep in mind in the following discussion that because most variables are endogenous and because the model is simultaneous, a statement like "variable x affects variable y" is not precise. In general, everything affects everything else, but it is sometimes helpful to focus on partial effects—effects through only one channel—in explaining the model's properties. The first link that will be discussed is the standard trade link.

Trade Links

The MC model has standard trade links. When, for whatever reason, the level of merchandise imports (M—equation 1) increases, this increases the import variable that feeds into the trade share calculations ($M85\$A$—equation I-8). This in turn increases the exports of other countries ($X85\$$—equation L-2), which increases the export variable that is part of the national income accounts (EX—equation I-2), which increase sales (X—equation I-3). This in turn increases production (Y—equation 4), which increases imports, consumption, and investment (M—equation 1, C—equation 2, I—equation 3). In short other countries' economies are stimulated by the increase in imports of the given country.

This is not, of course, the end of the story because the increase in imports of the other countries leads, among other things, to an increase in the given country's exports. This stimulates the given country's economy, which further increases its imports, which increases other countries' exports, and so on. There is thus a "trade feedback effect" in this sense.

Price Links

There are also price links in the model. When, for whatever reason, the domestic price level (PY—equation 5) increases, this increases the country's export price level (PX—equation 11) and the export price variable that feeds into the trade share calculations ($PX\$$—equation L-1). This in turn increases the import prices of other countries (PMP—equation L-3), which increases the import price variable that appears in their domestic price equations (PM—equation I-19), which increases their domestic price level (PY—equation 5). An increase in the given country's domestic price level has thus led to an increase in the other countries' domestic price levels.

This is also not the end of the story because the increase in the other countries' domestic price levels leads, other things being equal, to an increase in the given country's import price level, which then further increases the given country's domestic price level. There is thus a "price feedback effect" in this sense.

U.S. Interest Rate Link

The U.S. short term interest rate (RS) appears as an explanatory variable in most of the interest rate reaction functions of the other countries. Therefore, an increase in the U.S. interest rate increases the other countries' interest rates through these equations. This in turn has a negative effect on demand and output in the countries. Therefore, an increase in the U.S. interest rate, other things being equal, has a negative effect on other countries' output.

German Exchange Rate Link

The German exchange rate appears as an explanatory variable in the exchange rate equations of the other European countries. Therefore, a depreciation of the German exchange rate (relative to the U.S. dollar) leads to depreciations of the other countries' exchange rates through these equations. The German exchange rate equation is important in the model because of the effect that the German exchange rate has on the other European exchange rates.

Effects on Exchange Rates

The two effects on a country's exchange rate through its exchange rate equation are the relative price effect and the relative interest rate effect. For Germany and for countries whose exchange rates are not directly influenced by the German rate, the relative price variable is entered to have a long run coefficient of one, so that in the long run the real exchange rate fluctuates according to fluctuations in the relative interest rate. (For countries whose exchange rates are directly influenced by the German rate, which are the other European countries, the relative price term and the German rate have coefficients that are constrained to sum to one.)

Regarding the relative interest rate variable, it appears in six equations in Table 6.9: the equations for Canada, Japan, Austria, Germany, Finland, and Norway. Because it appears in the Japanese and German equations, it is an important variable in the model. It is not, however, significant in either of these equations, and so the properties of the model that depend on the inclusion of this variable in the equations must be interpreted with considerable caution. Whether or not the relative interest rate is in the exchange rate equations affects the properties of the model in the following way. Say that there is an increase in government spending in the United States that results in an expansion. Assume in this expansion that the U.S. price level rises relative to a particular country's price level and that the U.S. interest rate rises relative to this country's interest rate. If the relative interest rate does not appear in the country's exchange rate equation, but only the relative price variable, then there will be an appreciation of the country's currency relative to the U.S. dollar through the relative price effect. If, on the other hand, the relative interest rate is in the equation, the effect on the exchange rate is ambiguous because, other things being equal, a fall in the country's interest rate relative to the U.S. rate leads to a depreciation of the country's currency. It could thus be that the country's exchange rate depreciates in response to the U.S. expansion if the relative interest rate is in the exchange rate equation.

Exchange Rate Effects on the Economy

A depreciation of a country's currency (an increase in E) leads to an increase in its price of imports (equations L-3 and then I-19). This in turn leads to an increase in its domestic price level (equation 5). A depreciation is thus inflationary. If the increase in the domestic price level is less than the increase in the price of imports, which the domestic price equations imply will be true

in this case, then there is a decrease in the demand for imports (equation 1).

Holding the export price index in local currency (PX) constant, a depreciation of a country's currency leads to an increase in the export price index in \$ ($PX\$$—equation L-1). This in turn leads through the trade share equations for the amount of the imports of other countries that are imported from the given country to rise as a percent of the total imports of the countries. This then leads to an increase in the country's exports ($X85\$$—equation L-2).

A depreciation of a country's currency may thus be expansionary since imports fall and exports rise. Offsetting this at least somewhat, however, is the fact that the monetary authority may raise interest rates (through the interest rate reaction function) in response to the increased inflation.

Effects on the Balance of Payments

The balance of payments (S) is determined by equation I-6. The price of exports (PX) and exports ($X85\$$) have a positive effect on S and the price of imports (PM) and imports (M) have a negative effect. A depreciation of the exchange rate has a positive effect on exports and a negative effect on imports, which improves the balance of payments. On the other hand, a depreciation has a positive effect on the price of imports, which worsens the balance of payments. The effect of a change in the exchange rate on the balance of payments is thus ambiguous. Depending on the size of the responses and the lags, it may be that a depreciation at first worsens and later improves the balance of payments, which is the J curve effect.

Balance of Payments Effects on the Economy

When S increases, net assets vis-à-vis the rest of the world increase (A—equation I-7). An increase in net assets increases imports and consumption (M—equation 1, C—equation 2). Also, an increase in A leads to a fall in the short term interest rate through the interest rate reaction function (RS—equation 7). In other words, an improving balance of payments leads the monetary authority to lower the short term interest rate, other things being equal.

The Role of the Money Supply

The money supply ($M1$) plays a minor role in the model. The lagged percentage change in the money supply is an explanatory variable in the interest rate reaction functions of only 4 countries, and the only way that the money

supply affects other variables in the model is through its effect on the short term interest rate in the reaction functions.

Effects of Oil Price Changes

The oil exporting countries in the MC model are Saudi Arabia, Venezuela, Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, and the United Arab Emirates, where the latter seven are countries with trade share equations only. The export price index (PX) for each of these countries is essentially the price of oil, and PX is taken to be exogenous for each. An increase in the price of oil can thus be modeled by increasing PX for these countries. Doing this increases the price of imports for the other countries (equations L-2 and I-19), which leads to an increase in these other countries' domestic price levels (equation 5). This leads through the price feedback effect to further increases in import prices and domestic prices. An increase in oil prices (or other positive price shocks) can thus lead to a worldwide increase in prices. The key link here is the fact that the price of imports is an explanatory variable in the domestic price equation for each country.

12.3 Computing Multipliers

Change in U.S. Government Spending

For the first experiment U.S. government spending on goods (COG) was increased by one percent of U.S. real GDP for each of the quarters 1984:1–1986:4. A perfect tracking solution was first obtained by adding all the residuals (including the residuals in the trade share equations) to the equations and taking them to be exogenous. COG was then increased. The difference for each variable and period between the solution value from this simulation and the actual value is an estimate of the effect of the change on the variable for the period. The results for selected variables are presented in Table 12.1. Each number in the table is either the percentage change in the variable in percentage points or the absolute change in the variable. The variables for which absolute changes are used are RS, $S/(PY \cdot Y)$, and UR.[1]

As is known from analyzing the US model in Chapter 11, an increase in government spending leads to an increase in output, the price level, and the short term interest rate. This is the case in Table 12.1. The following

[1]The absolute changes for $S/(PY \cdot Y)$ and UR were multiplied by 100, since these two variables are in percents rather than percentage points. RS is already in percentage points.

Table 12.1
Multipliers for a U.S. Government Spending Increase

	Y	*PY*	*RS*	*E*	*M*	*C*	*I*	*X*85$	*PX*	*PM*	S^a	*UR*
1 US	1.12	.07	.46	–	.22	.11	.84	-.02	.06	-.11	-.01	-.28
2 US	1.64	.18	.81	–	.56	.24	1.85	-.10	.16	-.19	-.03	-.55
3 US	1.80	.32	.91	–	.82	.33	2.40	-.22	.29	-.25	-.05	-.73
4 US	1.79	.45	.95	–	1.14	.38	2.81	-.35	.40	-.30	-.07	-.84
8 US	1.21	.89	1.16	–	1.49	.22	1.89	-.91	.81	-.52	-.09	-.94
12 US	.76	.99	1.12	–	1.28	-.03	.43	-1.35	.88	-.74	-.07	-.53
1 CA	.04	.00	.39	.00	.02	.01	.01	.21	-.04	.01	.04	-.01
2 CA	.10	.02	.81	-.01	-.07	.00	-.07	.52	-.06	.05	.12	-.04
3 CA	.17	.05	1.00	-.03	-.24	-.03	-.23	.77	-.06	.10	.21	-.07
4 CA	.22	.08	1.08	-.05	-.40	-.06	-.42	.99	-.05	.15	.29	-.11
8 CA	.24	.28	1.28	-.16	-.86	-.14	-1.12	1.32	-.02	.18	.49	-.15
12 CA	.02	.36	1.14	-.26	-1.08	-.24	-1.85	1.00	-.07	.07	.47	-.04
1 JA	.01	.00	.05	.10	.00	-.01	.00	.10	-.02	.08	.00	.00
2 JA	.02	.01	.14	.26	-.02	-.02	-.01	.28	.01	.24	.01	.00
3 JA	.03	.02	.21	.40	-.07	-.03	-.04	.45	.06	.40	.02	.00
4 JA	.04	.03	.27	.54	-.13	-.05	-.08	.59	.11	.56	.03	-.01
8 JA	-.05	.08	.43	1.04	-.48	-.18	-.40	.88	.22	1.07	.06	.00
12 JA	-.32	.13	.49	1.36	-.90	-.39	-1.01	.79	.25	1.29	.06	.05
1 AU	.00	.00	.01	.29	.00	.00	–	.03	.05	.09	-.01	.00
2 AU	.02	.00	.04	.67	-.02	.01	–	.08	.15	.26	-.02	.00
3 AU	.04	.01	.07	.96	-.05	.04	–	.13	.23	.37	-.01	-.01
4 AU	.07	.03	.10	1.18	-.08	.07	–	.16	.30	.47	.00	-.01
8 AU	.14	.11	.19	1.91	-.13	.14	–	.10	.49	.65	.01	-.04
12 AU	.08	.18	.22	2.41	-.23	.09	–	-.22	.59	.69	-.01	-.05
1 FR	.00	.00	.16	.18	.00	.00	-.02	.02	.01	-.03	.02	–
2 FR	.00	.00	.36	.47	-.07	-.01	-.07	.08	.10	.14	.02	–
3 FR	.01	.00	.51	.74	-.19	-.04	-.13	.14	.20	.30	.04	–
4 FR	.01	.01	.61	.95	-.28	-.07	-.18	.20	.28	.45	.05	–
8 FR	-.07	.05	.82	1.63	-.57	-.22	-.46	.17	.46	.71	.07	–
12 FR	-.28	.02	.81	2.12	-1.00	-.42	-.97	-.14	.52	.74	.10	–
1 GE	.00	.00	.07	.22	-.01	-.01	-.02	.03	.01	.01	.01	.00
2 GE	.01	.00	.18	.54	-.04	-.03	-.05	.10	.06	.22	-.01	.00
3 GE	.01	.00	.29	.82	-.08	-.06	-.11	.18	.11	.41	-.03	.00
4 GE	.01	.01	.38	1.04	-.13	-.11	-.18	.24	.15	.56	-.03	.00
8 GE	-.12	.01	.56	1.73	-.43	-.32	-.65	.28	.22	.82	.00	.04
12 GE	-.33	-.05	.45	2.24	-.77	-.51	-1.17	.04	.22	.99	-.03	.13
1 IT	.00	.00	.16	.14	.00	-.02	-.01	.03	-.01	-.01	.01	.00
2 IT	-.01	.00	.36	.39	-.04	-.06	-.04	.07	.08	.11	.01	.00
3 IT	-.03	.00	.50	.63	-.10	-.11	-.09	.12	.18	.26	.02	.00
4 IT	-.06	.01	.57	.85	-.16	-.16	-.15	.16	.28	.38	.03	.01
8 IT	-.25	-.05	.72	1.49	-.55	-.42	-.61	.12	.43	.68	.06	.03
12 IT	-.57	-.28	.65	1.95	-1.11	-.72	-1.28	-.17	.40	.70	.08	.08
1 NE	.00	.00	.19	.22	.00	.00	–	.01	.04	.03	.01	–
2 NE	.02	.02	.44	.55	.00	.00	–	.04	.16	.26	-.04	–
3 NE	.03	.06	.65	.84	.00	.01	–	.07	.28	.47	-.08	–
4 NE	.06	.09	.79	1.06	-.02	.01	–	.10	.37	.63	-.09	–
8 NE	.03	.19	1.14	1.78	-.11	.01	–	-.04	.60	.97	-.18	–
12 NE	-.14	.25	1.10	2.30	-.29	-.04	–	-.51	.73	1.08	-.29	–
1 ST	.01	.00	.00	.21	.00	.00	–	.04	.00	.03	.00	.00
2 ST	.04	.00	.01	.52	-.01	.01	–	.11	.01	.17	-.04	-.01
3 ST	.08	.01	.02	.79	-.04	.01	–	.18	.02	.35	-.09	-.02
4 ST	.11	.02	.03	.99	-.08	.02	–	.22	.04	.41	-.09	-.03
8 ST	.20	.10	.08	1.65	-.32	.01	–	.20	.12	.59	-.06	-.08
12 ST	.20	.20	.10	2.15	-.58	-.03	–	-.11	.23	.70	-.05	-.11
1 UK	.01	-.01	.11	.12	.01	.00	.01	.04	-.02	-.09	.04	.00
2 UK	.01	-.01	.28	.31	.01	-.02	-.03	.11	.01	.00	.03	.00
3 UK	-.02	.00	.42	.47	-.01	-.07	-.14	.16	.05	.10	.01	.00
4 UK	-.07	.02	.52	.60	-.07	-.14	-.29	.22	.09	.18	.02	.01
8 UK	-.40	.00	.73	.97	-.60	-.60	-1.29	.23	.09	.15	.15	.16
12 UK	-.80	-.10	.63	1.28	-1.38	-1.10	-2.32	-.13	.02	.17	.22	.43

Table 12.1 (continued)

	Y	PY	RS	E	M	C	I	$X85\$$	PX	PM	S^a	UR
1 FI	.00	.00	.03	.30	.00	-.01	–	.05	.08	.06	.02	.00
2 FI	.01	.00	.08	.70	.00	-.03	–	.11	.23	.33	.00	.00
3 FI	.02	.01	.13	.96	-.07	-.05	–	.21	.34	.50	.02	-.01
4 FI	.04	.02	.18	1.15	-.11	-.07	–	.28	.41	.62	.03	-.01
8 FI	-.01	.06	.32	1.74	-.15	-.22	–	.24	.56	.77	.01	.00
12 FI	-.15	.05	.41	2.08	-.24	-.42	–	-.03	.57	.62	.04	.06
1 AS	.00	.00	.06	-.01	.02	-.01	–	.03	-.06	-.09	.01	.00
2 AS	-.01	-.01	.16	-.04	.06	-.02	–	.07	-.11	-.17	.02	.00
3 AS	-.02	-.01	.25	-.08	.09	-.05	–	.08	-.15	-.25	.02	.01
4 AS	-.05	-.02	.31	-.14	.11	-.08	–	.03	-.20	-.33	.02	.01
8 AS	-.19	-.13	.46	-.46	.12	-.27	–	-.16	-.51	-.81	.04	.06
12 AS	-.34	-.36	.40	-.83	-.04	-.48	–	-.45	-.91	-1.22	.02	.12
1 SO	-.01	.00	.09	-.01	.02	-.01	.00	.00	-.05	-.14	.02	–
2 SO	-.03	-.01	.24	-.04	.00	-.03	-.04	.00	-.10	-.29	.05	–
3 SO	-.04	-.02	.39	-.09	-.11	-.05	-.12	-.02	-.14	-.43	.11	–
4 SO	-.05	-.04	.54	-.16	-.27	-.09	-.22	-.04	-.18	-.57	.16	–
8 SO	-.26	-.15	1.10	-.52	-1.23	-.31	-1.02	-.22	-.47	-1.28	.36	–
12 SO	-.75	-.33	1.49	-.90	-2.46	-.69	-2.89	-.68	-.81	-1.95	.51	–
1 KO	.02	-.01	.00	.00	.01	.00	–	.11	-.14	-.06	.00	–
2 KO	.07	-.01	.01	-.01	.03	.01	–	.26	-.23	-.10	.03	–
3 KO	.10	.00	.02	-.02	.05	.02	–	.38	-.30	-.12	.04	–
4 KO	.13	.02	.03	-.04	.08	.03	–	.45	-.35	-.16	.05	–
8 KO	.17	.02	.07	-.14	.22	.06	–	.59	-.74	-.40	-.01	–
12 KO	.06	-.19	.06	-.27	.30	.02	–	.42	-1.16	-.72	-.17	–
1 BE	-.02	.03	.60	.70	-.10	-.16	-.39	.12	.05	.34	-.17	.01
2 BE	-.16	.07	.95	1.67	-.43	-.49	-1.34	.12	.11	.84	-.41	.05
3 BE	-.41	.05	1.03	2.39	-.98	-.91	-2.59	-.14	.10	1.22	-.52	.14
1 DE	.04	.03	.54	.66	-.05	-.04	.07	.12	.19	.24	.03	-.02
2 DE	.02	.09	.86	1.49	-.14	-.11	.06	.11	.45	.53	.03	-.02
3 DE	-.12	.15	.96	2.08	-.41	-.27	-.13	-.23	.60	.72	-.02	.04
1 NO	.09	.13	.11	.61	-.06	.04	–	.15	.14	.22	.03	-.03
2 NO	.12	.29	.25	1.29	-.23	.08	–	.07	.30	.38	.05	-.07
3 NO	.04	.42	.37	1.77	-.51	.04	–	-.37	.43	.47	.04	-.08
1 SW	.02	.01	.39	.44	.04	.01	.04	.13	.01	.05	.02	.00
2 SW	.05	.06	.87	1.13	.07	.04	.12	.17	.06	.27	-.04	.00
3 SW	.04	.10	1.25	1.72	.02	.03	.15	-.07	.11	.45	-.14	.00
1 GR	.01	.02	–	.41	.00	.01	.04	.06	.03	.09	-.01	–
2 GR	.04	.10	–	1.06	-.01	.02	.12	.04	.11	.31	-.06	–
3 GR	.01	.19	–	1.66	-.10	.02	.07	-.35	.20	.48	-.13	–
1 IR	.08	.03	.39	.53	.05	.03	.10	.13	.17	.24	-.01	-.02
2 IR	.09	.07	.58	1.15	.04	.05	.20	.04	.35	.51	-.14	-.04
3 IR	-.13	.12	.63	1.59	-.27	-.06	-.06	-.48	.43	.68	-.31	.00
1 PO	.01	.06	.28	.45	-.15	-.08	–	.08	.05	.19	.00	–
2 PO	.00	.20	.62	1.22	-.46	-.23	–	.03	.19	.58	-.04	–
3 PO	-.05	.38	.89	1.96	-.89	-.43	–	-.36	.37	.89	-.06	–
1 SP	.03	.01	–	.52	-.04	.01	–	.11	.16	.26	.00	-.01
2 SP	.07	.03	–	1.31	-.15	.04	–	.12	.43	.71	-.02	-.03
3 SP	.07	.06	–	1.98	-.29	.05	–	-.20	.64	.96	-.03	-.04
1 NZ	-.01	-.02	.08	-.05	.05	-.02	–	.06	-.02	-.20	.07	–
2 NZ	-.05	-.07	.13	-.18	.08	-.05	–	.01	-.07	-.50	.15	–
3 NZ	-.15	-.16	.12	-.35	.03	-.11	–	-.26	-.15	-.79	.15	–

Table 12.1 (continued)

	Y	PY	RS	E	M	C	I	$X85\$$	PX	PM	S^a	UR
1 SA	-.02	–	–	–	-.01	.00	-.01	-.06	–	-.22	.12	–
2 SA	-.10	–	–	–	-.08	.00	-.07	-.39	–	-.47	.15	–
3 SA	-.11	–	–	–	-.14	.03	-.11	-.27	–	-.70	.31	–
1 VE	.02	–	.14	–	.06	-.01	–	.16	–	-.02	.04	–
2 VE	.02	–	.32	–	.10	-.03	–	.23	–	.00	.04	–
3 VE	-.02	–	.45	–	.13	-.06	–	.12	–	-.12	.03	–
1 CO	.01	-.01	–	–	.04	.00	–	.14	-.01	-.07	.00	–
2 CO	.02	-.03	–	–	.09	.01	–	.23	-.02	-.09	.00	–
3 CO	-.02	-.05	–	–	.11	.00	–	-.16	-.05	-.19	.00	–
1 JO	-.09	-.10	–	-.24	.08	-.06	–	-.04	-.35	-.48	.19	–
2 JO	-.35	-.33	–	-.79	.37	-.17	–	-.12	-.98	-1.21	.33	–
3 JO	-.72	-.66	–	-1.36	.89	-.33	–	-.25	-1.65	-1.95	.29	–
1 SY	-.07	-.03	–	–	-.03	-.02	–	-.68	.01	-.23	.00	–
2 SY	-.15	-.11	–	–	-.08	-.05	–	-1.75	-.02	-.60	.00	–
3 SY	-.18	-.23	–	–	-.10	-.08	–	-1.59	-.11	-1.01	.04	–
1 ID	.00	–	–	-.07	.00	.00	–	.07	-.01	-.25	.02	–
2 ID	.01	–	–	-.25	.02	.01	–	.06	-.02	-.69	.06	–
3 ID	.01	–	–	-.45	.08	.03	–	-.22	-.03	-1.22	.09	–
1 MA	.00	-.01	–	–	.04	.00	–	.03	-.02	-.10	.05	–
2 MA	-.04	-.05	–	–	.05	-.01	–	-.03	-.07	-.21	.04	–
3 MA	-.09	-.13	–	–	-.01	-.04	–	-.12	-.16	-.22	-.02	–
1 PA	-.02	-.03	.09	–	.03	.00	–	-.21	-.02	-.12	.00	–
2 PA	-.06	-.08	.15	–	.08	-.01	–	-.41	-.07	-.26	.00	–
3 PA	-.12	-.18	.19	–	.16	-.01	–	-.86	-.17	-.56	-.03	–
1 PH	-.08	-.05	.32	-.21	-.08	-.02	-.47	.26	-.03	-.26	.13	–
2 PH	-.34	-.18	.68	-.68	-.29	-.08	-2.13	.35	-.14	-.79	.28	–
3 PH	-.67	-.40	.94	-1.15	-.59	-.16	-3.94	.12	-.33	-1.37	.43	–
1 TH	.00	-.04	–	–	.05	.00	–	.06	-.04	-.15	.02	–
2 TH	-.02	-.12	–	–	.14	.00	–	.09	-.12	-.38	.05	–
3 TH	-.08	-.21	–	–	.14	-.02	–	-.19	-.21	-.54	.06	–

[a] Variable is $S/(PY \cdot Y)$, not S itself.

discussion will focus on what these changes did to the economies of the other countries.

1. The increase in the U.S. interest rate leads to an increase in the interest rates of other countries (through the other countries' interest rate reaction functions). This, other things being equal, has a contractionary effect on demand and then output in the other countries. Except for Canada, the U.S. interest rate rises more than the other countries' interest rates, and so there is a relative increase in the U.S. rate.

2. The U.S. price level rises not only absolutely but relative to the price levels of the other countries, and so there is a relative increase in the U.S. price level.

3. The relative increase in the U.S. price level has an appreciating effect on the other countries' exchange rates, and the relative increase in the U.S. interest rate has a depreciating effect. As discussed in the previous section, the net effect could go either way. For the non European countries in which the relative interest rate variable is not included in the exchange rate equations, the exchange rates appreciate. These are

Australia, South Africa, Korea, New Zealand, Jordan, India, and the Philippines. This result is, of course, as expected since only the relative price effect is operating. For the other countries except Canada, the exchange rates depreciate, which means that the relative interest rate effect dominates the relative price effect for these countries. (Canada's exchange rate appreciates slightly because of a slight rise in Canada's interest rate relative to the U.S. rate.) The exchange rates of all the European countries depreciate, not just those in which the relative interest rate is an explanatory variable in the exchange rate equations. This is because of the effect of the German exchange rate. The German exchange rate depreciates because the relative interest rate variable is in the German exchange rate equation and this leads to a depreciation of the exchange rates that are influenced by the German exchange rate.

The exchange rate results show that the relative interest rate variable is important. For example, even though it is not significant in the exchange rate equations of Germany and Japan, its inclusion leads to a depreciation of the German and Japanese exchange rates. If the variable were not included, the exchange rates would have appreciated. The depreciation of the exchange rates in Table 12.1 must thus be interpreted with caution. This property is not strongly supported by the data.

4. The net effect on the United States of the exchange rate changes is for the price of imports to fall. In this sense the U.S. dollar on net appreciates. In other words, on net the relative interest rate effect dominates the relative price effect. Again, this property is not strongly supported by the data.

5. U.S. imports increase partly because of the increased demand in the U.S. economy and partly because of the fall in the price of imports relative to the price of domestically produced goods. The increase in U.S. imports leads to an increase in the exports ($X85\$$) of most (but not all) countries. (The reason that exports fall for some countries is discussed in the next item.) U.S. exports, on the other hand, fall, which is primarily because of the net appreciation of the U.S. dollar.

6. The increase in exports of the other countries has a positive effect on their output, but, as noted in item 1, the increase in their interest rates has a negative effect. The net effect could thus go either way, and the net effect does in fact vary across countries. In general, however, there are more negative changes in output than positive ones, and so the interest

Table 12.2
Multipliers for a U.S. Government Spending Increase

	Y	*PY*	*RS*	*M*	*C*	*I*	*X*85$	*PX*	*PM*	*S*	*UR*
					US Alone						
1 US	1.11	0.08	0.46	0.20	0.10	0.82	0.00	0.08	0.00	-0.01	-0.28
2 US	1.63	0.19	0.82	0.52	0.22	1.81	0.00	0.18	0.00	-0.03	-0.55
3 US	1.79	0.34	0.92	0.75	0.31	2.34	0.00	0.33	0.00	-0.05	-0.73
4 US	1.78	0.47	0.96	1.04	0.34	2.74	0.00	0.45	0.00	-0.06	-0.84
8 US	1.22	0.97	1.19	1.26	0.16	1.84	0.00	0.92	0.00	-0.06	-0.95
12 US	0.79	1.13	1.17	0.87	-0.15	0.38	0.00	1.08	0.00	-0.02	-0.55
					US in MC						
1 US	1.12	0.07	0.46	0.22	0.11	0.84	-0.02	0.06	-0.11	-0.01	-0.28
2 US	1.64	0.18	0.81	0.56	0.24	1.85	-0.10	0.16	-0.19	-0.03	-0.55
3 US	1.80	0.32	0.91	0.82	0.33	2.40	-0.22	0.29	-0.25	-0.05	-0.73
4 US	1.79	0.45	0.95	1.14	0.38	2.81	-0.35	0.40	-0.30	-0.07	-0.84
8 US	1.21	0.89	1.16	1.49	0.22	1.89	-0.91	0.81	-0.52	-0.09	-0.94
12 US	0.76	0.99	1.12	1.28	-0.03	0.43	-1.35	0.88	-0.74	-0.07	-0.53

rate effect on average dominates the export effect. For some countries the level of exports falls, which is due to the drop in import demand from other countries. If a country is one in which exports fall, this can lead to a fall in its output even if there is no interest rate effect operating.

7. The U.S. balance of payments deteriorates, and the balance of payments of most of the other countries improves. The U.S. balance of payments is hurt by the rise in imports and the fall in exports, and it is helped (other things being equal) by the rise in the price of exports and the fall in the price of imports. The net effect is negative.

8. Given the output changes, the effects on employment, the labor force, and the unemployment rate are as discussed in Chapter 11 for the US model, and this discussion will not be repeated here. The unemployment rate generally rises when output falls and vice versa.

Change in U.S. Government Spending in the US Model Alone

It is interesting to see how sensitive the properties of the US model are to being imbedded in the MC model. To examine this, the same experiment just described was done using the US model by itself. The results are presented in Table 12.2. The first set of results is for the US model alone, and the second set is for the US model imbedded in the MC model. The second set is the same as that in Table 12.1. The main differences are:

Table 12.3
Multipliers for Own Government Spending Increases

	Y	*PY*	*RS*	*E*	*M*	*C*	*I*	*X*85$	*PX*	*PM*	S^a	*UR*
1 US	1.12	.07	.46	–	.22	.11	.84	-.02	.06	-.11	-.01	-.28
2 US	1.64	.18	.81	–	.56	.24	1.85	-.10	.16	-.19	-.03	-.55
3 US	1.80	.32	.91	–	.82	.33	2.40	-.22	.29	-.25	-.05	-.73
4 US	1.79	.45	.95	–	1.14	.38	2.81	-.35	.40	-.30	-.07	-.84
8 US	1.21	.89	1.16	–	1.49	.22	1.89	-.91	.81	-.52	-.09	-.94
12 US	.76	.99	1.12	–	1.28	-.03	.43	-1.35	.88	-.74	-.07	-.53
1 CA	.75	.08	.05	.00	.38	.14	.16	-.01	.06	.00	-.06	-.22
2 CA	1.01	.24	.12	.01	.79	.30	.37	-.02	.18	.01	-.13	-.47
3 CA	1.12	.44	.18	.02	1.15	.45	.55	-.05	.33	.03	-.19	-.58
4 CA	1.18	.65	.22	.05	1.45	.58	.73	-.09	.50	.06	-.21	-.64
8 CA	1.24	1.54	.33	.22	2.15	.89	1.14	-.27	1.21	.26	-.24	-.76
12 CA	1.22	2.37	.39	.50	2.35	.94	1.38	-.46	1.90	.58	-.17	-.79
1 JA	.78	.00	.00	.00	.13	.07	.20	.00	.00	.00	-.03	-.09
2 JA	1.13	.00	.00	.00	.31	.17	.48	.01	.00	.00	-.06	-.15
3 JA	1.35	.00	.01	.00	.49	.27	.79	.01	.00	.00	-.08	-.23
4 JA	1.51	.00	.02	-.01	.66	.38	1.12	.01	.00	.00	-.11	-.31
8 JA	2.11	.00	.06	-.04	1.31	.80	2.49	.02	-.02	-.03	-.17	-.46
12 JA	2.70	.00	.07	-.09	1.92	1.23	3.90	.03	-.04	-.07	-.21	-.67
1 AU	.51	.05	.12	-.02	.30	.41	–	-.01	.03	-.02	-.06	-.06
2 AU	.87	.14	.30	-.06	.70	.80	–	-.03	.08	-.05	-.17	-.16
3 AU	1.12	.25	.50	-.10	1.09	1.10	–	-.06	.13	-.09	-.21	-.25
4 AU	1.25	.37	.71	-.14	1.40	1.28	–	-.10	.20	-.13	-.29	-.33
8 AU	1.35	.79	1.27	-.29	1.96	1.46	–	-.27	.44	-.23	-.33	-.54
12 AU	1.19	1.09	1.38	-.36	1.94	1.29	–	-.47	.62	-.26	-.26	-.68
1 FR	.43	.00	.00	.00	.83	.07	.38	.04	.00	.01	-.16	–
2 FR	.78	.06	.07	-.02	1.69	.18	.99	.04	.03	.01	-.31	–
3 FR	1.08	.16	.16	-.04	2.36	.32	1.73	.04	.08	.00	-.42	–
4 FR	1.33	.28	.27	-.06	2.83	.48	2.49	.03	.15	-.01	-.52	–
8 FR	2.24	1.00	.58	-.25	3.95	1.15	5.38	-.07	.54	-.01	-.61	–
12 FR	2.95	1.90	.73	-.48	4.66	1.85	7.54	-.25	1.05	.05	-.55	–
1 GE	.79	.00	.26	-.15	.44	.01	.41	.01	.00	.04	-.12	-.11
2 GE	.97	.08	.53	-.45	.80	-.01	.83	-.04	.02	-.14	-.16	-.24
3 GE	.98	.17	.75	-.84	.99	-.06	1.11	-.12	.05	-.37	-.15	-.33
4 GE	.93	.26	.91	-1.28	1.06	-.13	1.29	-.23	.06	-.64	-.11	-.38
8 GE	.59	.52	1.06	-2.97	.77	-.46	1.14	-.81	.11	-1.27	.02	-.42
12 GE	.27	.61	.77	-3.82	.37	-.68	.44	-1.21	.12	-1.51	.05	-.30
1 IT	.48	.09	.06	.00	.78	.10	.26	.00	.04	.01	-.14	-.03
2 IT	.83	.24	.18	.00	1.43	.24	.66	.00	.12	.02	-.23	-.08
3 IT	1.10	.43	.32	.00	1.92	.39	1.10	-.02	.21	.02	-.32	-.13
4 IT	1.33	.65	.46	.00	2.29	.56	1.55	-.04	.31	.03	-.38	-.17
8 IT	2.00	1.81	.87	-.04	3.33	1.18	3.23	-.18	.87	.09	-.44	-.34
12 IT	2.35	3.17	1.08	-.12	3.87	1.66	4.11	-.43	1.54	.20	-.33	-.63
1 NE	.86	.00	.20	.00	.17	.10	–	.01	.00	.00	-.11	–
2 NE	1.19	.01	.40	.00	.39	.23	–	.01	.01	.00	-.23	–
3 NE	1.22	.02	.53	-.01	.59	.36	–	.01	.01	.00	-.31	–
4 NE	1.15	.04	.61	-.01	.76	.46	–	.01	.02	.00	-.39	–
8 NE	.99	.07	.66	-.05	1.18	.72	–	.02	.03	-.02	-.52	–
12 NE	1.00	.07	.63	-.09	1.45	.89	–	.04	.03	-.02	-.53	–
1 ST	1.24	.00	.16	.00	-.35	.16	–	.00	.00	.00	.04	-.12
2 ST	1.42	.13	.31	.01	-.68	.26	–	-.03	.13	.01	.14	-.37
3 ST	1.56	.30	.46	.02	-.99	.32	–	-.07	.30	.01	.29	-.54
4 ST	1.67	.52	.61	.03	-1.25	.34	–	-.12	.50	.02	.48	-.66
8 ST	1.55	1.57	.99	.09	-1.42	.22	–	-.50	1.52	.07	.82	-1.16
12 ST	.60	2.50	.94	.12	.04	-.05	–	-1.11	2.43	.11	.63	-1.04
1 UK	.89	.00	.11	.00	.81	.13	.61	.04	.00	.01	-.17	-.14
2 UK	1.07	.05	.22	.01	1.44	.26	1.17	.04	.04	.02	-.31	-.31
3 UK	1.13	.11	.31	.01	1.83	.35	1.59	.04	.09	.03	-.40	-.46
4 UK	1.14	.17	.39	.01	2.05	.42	1.88	.04	.13	.04	-.46	-.58
8 UK	1.21	.37	.59	-.01	2.35	.46	2.41	.04	.29	.11	-.42	-.86
12 UK	1.07	.50	.64	-.06	2.09	.26	2.09	.06	.40	.15	-.34	-.90

Table 12.3 (continued)

	Y	*PY*	*RS*	*E*	*M*	*C*	*I*	*X*85$	*PX*	*PM*	S^a	*UR*
1 FI	.41	.01	.00	.00	.34	.13	–	.00	.01	.00	-.07	-.08
2 FI	.68	.05	.01	.00	.61	.29	–	.00	.03	.00	-.14	-.21
3 FI	.87	.12	.03	.00	.80	.46	–	-.01	.06	.01	-.17	-.31
4 FI	1.02	.21	.05	.01	.94	.62	–	-.03	.11	.01	-.19	-.39
8 FI	1.33	.76	.09	.07	1.25	1.06	–	-.17	.41	.08	-.16	-.74
12 FI	1.40	1.43	.07	.18	1.41	1.26	–	-.36	.81	.21	-.21	-.81
1 AS	.64	.02	.18	.00	.64	.08	–	.01	.01	.00	-.05	-.09
2 AS	.88	.08	.40	.01	1.30	.17	–	.00	.06	.02	-.12	-.24
3 AS	.95	.18	.60	.04	1.82	.25	–	-.01	.13	.04	-.17	-.35
4 AS	.96	.30	.76	.07	2.17	.30	–	-.02	.21	.08	-.20	-.40
8 AS	.89	.86	1.13	.35	2.61	.32	–	-.06	.67	.36	-.25	-.35
12 AS	.82	1.43	1.18	.76	2.55	.22	–	-.07	1.19	.78	-.23	-.32
1 SO	1.01	.00	.00	.00	.64	.10	.39	.00	.00	.00	-.09	–
2 SO	1.06	.00	.00	.00	1.16	.21	.76	.00	.00	.00	-.21	–
3 SO	1.08	.00	.00	.00	1.54	.30	1.12	.00	.00	.00	-.28	–
4 SO	1.17	.00	.00	.00	1.86	.41	1.45	.00	.00	.00	-.38	–
8 SO	1.66	.00	.00	.00	2.83	.84	3.01	.01	.00	.01	-.60	–
12 SO	2.13	.00	.00	.00	3.41	1.28	5.09	.01	.01	.02	-.67	–
1 KO	.72	.08	.07	.00	.14	.07	–	.00	.01	.00	-.02	–
2 KO	.91	.42	.17	.02	.33	.13	–	-.01	.06	.02	-.07	–
3 KO	.93	.75	.28	.05	.51	.19	–	-.02	.11	.05	-.11	–
4 KO	.92	1.01	.36	.09	.69	.23	–	-.04	.17	.09	-.23	–
8 KO	.73	1.48	.59	.27	1.18	.22	–	-.06	.38	.28	-.42	–
12 KO	.59	1.47	.68	.45	1.33	-.01	–	-.05	.55	.45	-.50	–
1 BE	.61	.13	.02	-.03	1.06	.18	1.28	-.02	.13	-.02	-.59	-.17
2 BE	.63	.36	.03	-.11	1.28	.31	2.11	-.06	.35	-.05	-.48	-.26
3 BE	.60	.62	.03	-.19	1.32	.38	2.36	-.14	.59	-.10	-.23	-.27
1 DE	1.14	.14	.20	-.01	2.14	.80	1.78	-.01	.07	.00	-.55	-.43
2 DE	1.39	.59	.15	-.04	2.25	1.00	2.79	-.07	.31	-.01	-.45	-.96
3 DE	1.47	1.40	-.04	-.09	1.99	.93	2.92	-.24	.75	-.03	-.15	-1.20
1 NO	1.08	-.01	.07	-.03	.73	.56	–	.00	-.01	-.03	-.23	-.31
2 NO	1.17	-.03	.21	-.09	.71	.74	–	-.01	-.04	-.09	-.23	-.80
3 NO	1.27	-.08	.35	-.18	.48	.82	–	-.01	-.09	-.16	-.02	-1.05
1 SW	.52	.14	.18	.00	1.07	.26	.98	-.03	.13	.00	-.25	-.05
2 SW	.90	.41	.46	-.02	1.87	.48	2.23	-.10	.41	.02	-.37	-.12
3 SW	1.19	.35	.69	-.05	2.44	.59	3.54	-.06	.35	.03	-.49	-.03
1 GR	1.07	.32	–	.00	1.45	.45	3.00	-.14	.31	.00	-.22	–
2 GR	1.99	.85	–	-.01	3.06	1.09	6.33	-.32	.83	.00	-.40	–
3 GR	2.82	1.50	–	-.02	4.50	1.79	9.93	-.49	1.48	.00	-.67	–
1 IR	.84	.00	.09	.00	.96	.38	1.06	.01	.00	.00	-.44	-.19
2 IR	1.20	.00	.15	.00	1.54	.60	2.50	.02	.00	.00	-.71	-.47
3 IR	1.33	.00	.16	-.01	1.68	.60	3.62	.03	.00	.00	-.67	-.72
1 PO	1.14	.34	.12	-.04	.67	.56	–	-.10	.35	-.04	-.08	–
2 PO	1.14	.59	.18	-.09	1.16	.84	–	-.16	.61	-.09	-.18	–
3 PO	1.01	.74	.18	-.14	1.43	.91	–	-.21	.77	-.13	-.23	–
1 SP	1.08	.21	–	-.01	1.15	.55	–	-.03	.08	-.01	-.19	-.36
2 SP	1.37	.50	–	-.04	2.06	.91	–	-.06	.19	-.03	-.33	-.67
3 SP	1.33	.77	–	-.09	2.35	.99	–	-.09	.29	-.05	-.31	-.70
1 NZ	.99	.13	.13	.02	1.93	.64	–	-.03	.13	.02	-.28	–
2 NZ	.96	.29	.28	.07	2.03	.77	–	-.05	.30	.07	-.34	–
3 NZ	.98	.48	.39	.14	1.97	.77	–	-.07	.48	.14	-.22	–

Table 12.3 (continued)

	Y	PY	RS	E	M	C	I	$X85\$$	PX	PM	S^a	UR
1 SA	.78	–	–	–	.54	.15	.44	.00	–	.00	-.01	–
2 SA	1.12	–	–	–	1.22	.32	1.04	.01	–	.00	-.14	–
3 SA	1.19	–	–	–	1.83	.42	1.38	.01	–	.01	-.26	–
1 VE	.75	–	.04	–	1.51	.06	–	.00	–	.00	-.24	–
2 VE	.85	–	.17	–	2.10	.09	–	.00	–	.00	-.30	–
3 VE	.86	–	.29	–	2.14	.06	–	.00	–	.00	-.24	–
1 CO	.91	.00	–	–	1.10	.46	–	.00	.00	.00	-.01	–
2 CO	1.41	.00	–	–	1.95	.91	–	.00	.00	.00	-.01	–
3 CO	1.73	.00	–	–	2.47	1.28	–	.00	.00	.00	-.01	–
1 JO	1.61	.00	–	.00	.44	1.00	–	.00	.00	.00	-.13	–
2 JO	2.43	.00	–	.00	.77	1.99	–	.00	.00	.00	-.24	–
3 JO	2.76	.00	–	.00	.74	2.58	–	.00	.00	.00	-.24	–
1 SY	1.11	.00	–	–	.52	.27	–	.00	.00	.00	-.06	–
2 SY	1.14	.00	–	–	.56	.35	–	.00	.00	.00	-.04	–
3 SY	1.15	.00	–	–	.49	.32	–	.00	.00	.00	-.02	–
1 ID	1.43	–	–	.00	.73	.71	–	.00	.00	.00	-.03	–
2 ID	1.64	–	–	.00	1.30	1.07	–	.00	.00	.00	-.05	–
3 ID	1.72	–	–	.00	1.66	1.23	–	.01	.00	.01	-.06	–
1 MA	.70	.61	–	–	1.03	.49	–	-.37	.58	.00	-.17	–
2 MA	.55	1.00	–	–	1.39	.54	–	-.50	.96	.01	-.16	–
3 MA	.44	1.26	–	–	1.50	.47	–	-.36	1.21	.01	.01	–
1 PA	.92	.06	.02	–	.48	.07	–	-.10	.06	.00	-.05	–
2 PA	1.04	.11	.08	–	.79	.14	–	-.12	.11	.00	-.10	–
3 PA	1.05	.14	.07	–	.96	.20	–	-.17	.14	.00	-.12	–
1 PH	1.37	.00	.00	.00	1.31	.35	1.23	.00	.00	.00	-.19	–
2 PH	1.67	.00	.03	.00	2.09	.56	3.23	.00	.00	.00	-.33	–
3 PH	1.76	.00	.05	.00	2.38	.64	4.21	.00	.00	.00	-.45	–
1 TH	.93	.00	–	–	1.28	.42	–	.00	.00	.00	-.02	–
2 TH	1.10	.00	–	–	1.49	.64	–	.00	.00	.00	-.02	–
3 TH	1.19	.00	–	–	1.30	.69	–	.01	.00	.00	-.03	–

[a] Variable is $S/(PY \cdot Y)$, not S itself.

1. The domestic price level rises more in the U.S. alone case because the price of imports does not fall. This leads to a slightly larger rise in the short term interest rate (through the interest rate reaction function of the Fed). The domestic price level relative to the price of imports rises less in the U.S. alone case.

2. Imports rise less in the U.S. alone case because of the smaller rise in the domestic price level relative to the price of imports. Exports remain unchanged in the U.S. alone case instead of falling as in the other case.

3. The differences in output in the two cases are small. Working in favor of the U.S. alone case in terms of increasing output are the facts that imports rise less and exports do not fall. Working against it are the facts that the interest rate rises more and the price level rises more relative to the nominal wage. These offsetting forces roughly cancel out with respect to the effects on output.

In general the differences in Table 12.2 are fairly small. This means that the results in Chapter 11 for the US model alone would not likely change

much if they were done for the US model imbedded in the MC model. The main difference concerns the domestic price level, where the inflationary consequences of spending increases would be at least slightly larger with the US model imbedded in the MC model.

Change in Each Country's Government Spending

As mentioned at the beginning of this chapter, Table 12.3 presents results from 32 multiplier experiments, one per country (except the United States). Government spending (G) for each country was increased by one percent of its real GDP for each of the quarters 1984:1–1986:4 for the quarterly countries and for each of the years 1984–1986 for the annual countries. A perfect tracking solution was first obtained by adding all the residuals (including the residuals in the trade share equations) to the equations and taking them to be exogenous. G was then increased. There were 32 such experiments, all done using the complete MC model. The own results for each country are presented in Table 12.3. Unlike Table 12.1, no results are presented for the non own countries. To do so would have required 32 tables the size of Table 12.1, which is too many tables even for me. Some of the main results in Table 12.3 are the following.

1. In almost every case the domestic price level rises, as does the short term interest rate (if the variables are endogenous).

2. In almost every case the balance of payments worsens.

3. The exchange rate results are mixed. Some exchange rates appreciate and some depreciate. This is as expected since, as discussed above, there are offsetting effects on the exchange rate. The German exchange rate appreciates, so the relative interest rate effect dominates the relative price effect for Germany. The opposite is true for Canada. For Japan the exchange rate changes are very small. The exchange rate changes are also small for many of the European countries, which is due to the fact that their exchange rates are heavily tied to the German exchange rate, which does not change very much as the government spending of the other countries changes.

4. The changes in exports are generally negative, and the changes in imports are generally positive. This is the main reason that the balance of payments changes are generally negative.

5. The changes in the price of imports are generally negative when the exchange rate appreciates and positive when the exchange rate depreciates.

12.4 Common Results Across Countries

One conclusion that emerges from the results in Tables 12.1 and 12.3 is that there are few simple stories. The size and many times the sign of the effects differ across countries. If in practice one were going to use the MC model for policy purposes, to see, say, what the effects on other countries some U.S. policy action would have, the results for each country would have to be examined individually. It is unlikely that a general result across all countries would emerge. Nevertheless, there are a few results that are fairly robust across countries, and this chapter will end by listing them.

A government spending increase in a country generally leads to the following:

1. A rise in the domestic price level.
2. A rise in the short term interest rate.
3. A rise in the demand for imports.
4. A fall in exports.
5. A worsening of the balance of payments.
6. A rise in consumption, investment, employment, and the labor force; a fall in the unemployment rate.

The main effects of a government spending increase that vary across countries are 1) the exchange rate may appreciate or depreciate and 2) because of this, the price of imports may decrease or increase.