CURRENT-ACCOUNT IMBALANCES AND ADJUSTMENT MECHANISMS

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INTRODUCTION

Recent imbalances in the external current-account positions of the major OECD countries have been unprecedented for the post-war period in both their size and duration. The issue of their sustainability has been raised because of the size of the financing needs of large cumulative current-account deficits and because of the speed and extent of the accumulation of large net creditor and debtor positions. This article does not examine the sustainability issue per se, since it assumes that some adjustment of current-account imbalances will at some stage be necessary. Many would argue that the sooner the adjustment takes place the better, since delayed adjustment is more likely to engender extreme solutions – such as excessive changes in exchange rates or defensive protectionist policies – that, from the global point of view, might best be avoided. This article focuses on the narrower and more technical issue of the mechanisms by which current-account imbalances might be resolved. But the issue of timing is important because the longer that large imbalances persist, and hence the greater the degree of net accumulation of international assets and liabilities, the less tractable the situation.

Although the focus of the article is on the mechanisms of adjustment per se, the motivation of the article clearly lies with the present degree of imbalance, which the authors regard as unsustainable and hence potentially dangerous. The current environment of large international payments imbalances, in which the discussion and quantification of adjustment mechanisms is couched, is therefore briefly described in the following section. Part II then addresses general considerations concerning the adjustment process while Part III attempts some quantification of the different mechanisms by simulating the effects of certain changes in the economic environment using the period **1984** to **1988** as the testbed. For these simulations, the OECD's INTERLINK world model is used in order to capture the main interrelationships between different OECD countries and non-OECD zones[1]. Baseline dependency is important when considering various adjustment mechanisms, but the five-year reference period selected has the advantage of reflecting the present world environment of large imbalances, low inflation and modest growth. The exercise is not, however, a forecasting exercise but rather an examination of the way in which adjustment can take place.

I. CURRENT-ACCOUNT IMBALANCES

In the post-war period, it has been unusual for any of the major countries to run a systematic and relatively high external imbalance, though not unusual for smaller countries to do so[2]. Until 1986, no major country had recorded a string of current-account deficits of at least 2½ per cent of GNP for as long as three years, the usual pattern being an oscillation beween deficit and surplus. The actual and prospective deficits and surpluses of over 2½ per cent of GNP for respectively the United States and Japan in each year over the period 1984-88 are therefore exceptional.

The implication of these large and systematic imbalances for the two largest OECD economies, which represent over half of OECD output, is a large net accumulation of international assets and liabilities accompanied by profound modifications in the net creditor/debtor positions. The United States has since 1981 run down a large net asset position which had been built up over many decades and has now become the largest debtor country. Meanwhile Japan has moved from being only a minor creditor to becoming the world's largest creditor (over US$ 100 billion in 1985). The net positions of these two countries are not especially large as a proportion of GNP but they have been built up extremely quickly and are continuing to grow rapidly. By the middle of 1988 U.S. net external debt may be close to $400 billion while Japanese net external assets could be around $350 billion (Table 1). Moreover, these stock changes feed on themselves, since the changing net investment income flows which derive from these net stock positions are now exacerbating the current-account imbalances. The net investment income flows are a critical part of the problem of the imbalances and also a key part of the dynamics of adjustment. They make the corrective process more difficult to achieve, but also suggest that the sooner that adjustment occurs the more easily will it take place.

There have also been large changes in the current-account positions of non-OECD countries. During the 1980s the combined current balance of the OPEC countries has moved from substantial surplus to significant deficit, reflecting the weakening of the oil price as well as strong import demand. Meanwhile the non-oil developing countries, in response to the debt crisis of the early 1980s and the subsequent financing constraints, have brought their combined current-account deficit, which was at a peak in 1981, back close to balance. There is now the curious feature, indicated in Table 1, that all of the major world zones seem to be in current account deficit. This is due to the global under-recording of export receipts which gives rise to the world current-account discrepancy, now running at around

Table 1. The evolution of current account imbalances

	1980	1981	1982	1983	1984	1985	1986	1987	19881
Current balances ($ billion)									
United States	1.9	6.3	–9.1	–46.6	–106.5	–117.7	–138.1	–136.4	–133.4
Japan	–10.7	4.8	6.8	20.8	35.0	49.2	81.6	77.4	72.3
Germany	–15.7	–5.5	4.1	4.1	7.0	13.2	32.4	26.3	20.7
OECD	–68.7	–24.7	–28.8	–28.0	–65.8	–57.5	–19.7	–34.0	-47.3
OPEC	103.4	47.6	–22.1	–11.5	–9.6	-4.7	–51.5	–42.4	–28.7
Non-oil LDCs	–67.4	–84.9	–59.5	–23.7	–9.4	–16.3	–7.1	–1.9	–3.7
World discrepancy	–32.8	–62.0	–110.5	–63.2	–84.8	–78.5	–78.2	–78.2	–79.7
Current balance (% GNP)									
United States	0.0	0.2	-0.3	–1.4	–2.8	–2.9	–3.3	–3.1	–2.9
Japan	–1.1	0.4	0.6	1.8	2.8	3.7	4.1	3.7	3.3
Germany	–1.9	-0.8	0.6	0.6	1.2	2.0	3.6	2.6	2.0
Trade balances ($ billion)									
United States	–25.5	–28.0	–36.5	–67.1	–112.5	–124.4	–144.1	–141.3	–136.8
Japan	2.1	20.0	18.1	31.5	44.3	56.0	86.2	82.3	76.7
Germany	10.4	18.0	26.4	22.4	22.9	28.9	53.5	48.9	44.8
Net investment income ($ billion)									
United States	30.4	34.1	29.9	23.1	18.8	25.2	21.9	17.7	14.8
Japan	0.9	-0.8	1.7	3.1	4.2	6.8	10.8	16.5	20.2
Germany	2.3	0.2	–1.6	1.3	2.0	1.8	0.7	2.5	3.8
Net foreign assets position ($ billion)									
United States	199.9	173.7	158.9	121.2	19.7	–100.4	–163.9	–290.6	–391.8
Japan	22.2	21.8	21.9	36.8	63.7	104.6	208.6	294.8	350.7
Germany	40.1	29.1	30.1	35.6	41.4	51.9	69.6	99.1	116.7

Source: *OECD Economic Outlook 40,* December 1986.

US$80 billion a year. The danger that everyone might react to such deficits, even though partly spurious, with self-defeating corrective policies is widely recognised. The discrepancy must certainly be borne in mind – to aim at zero recorded balances, for instance, would be futile. But the focus of the work below is on the imbalances within the OECD countries. Indeed, for the main simulations reported below, it is assumed that the current balances of the non-OECD countries remain unchanged, an assumption based on financing constraints which is discussed further below.

The rapid development of the OECD imbalances from about 1981 onwards owed much to the rise of the dollar and much faster growth in the United States than elsewhere. These factors were related to the different policy mix in the United States and elsewhere, indicating the importance of the role of policy to the development of imbalances and equally the importance of policy in their resolution, an issue taken up below when some quantification is attempted. But before looking at estimates of the relative magnitudes involved, the next section discusses some general considerations pertaining to adjustment mechanisms.

II. ADJUSTMENT MECHANISMS – GENERAL CONSIDERATIONS

The analysis of how the adjustment of current-account imbalances takes place usually follows one of two tracks. The first bases itself on the proximate determinants of current-account transactions, essentially incomes and relative prices. This leads to a focus on rates of growth of domestic demand at home and abroad as they influence imports and exports respectively; and to a focus on relative competitive positions as influencing the pattern of gains and losses of market shares on both domestic and foreign markets. This approach is almost universally applied for short-run analysis, and even in a medium-term context is the way that most analyses are implemented empirically. The other approach starts off from the observation that the current account is identical to the difference between national saving and investment or, what is an equivalent formulation, the difference between total domestic demand and output. This way of looking at the issue suggests that, at least over the longer term, current-account adjustment can be analysed in terms of the determinants of savings and investment behaviour[3].

It is important to recognise that, formally speaking, these two approaches are not conflicting interpretations of how adjustment comes about, but alternative ways of describing the same process. Thus, for example, an increase in growth abroad, to the extent that it gives rise to increased exports, would be associated with a rise in

domestic production and income. While higher income would also tend to raise domestic demand (and hence imports), the latter would typically increase less than the former, implying an increase in domestic saving which is the counterpart of a stronger trade balance. If, as could happen, domestic demand rises fully in line with the increase in domestic income, there would be no change in net domestic saving, and also no change in the current account. But then, viewed from the "trade side", this would be interpreted as showing that the rise in domestic demand has, by stimulating imports, offset the trade-balance improvement that could have been expected from stronger exports.

The role of exchange-rate changes in promoting adjustment can likewise be analysed in either a "trade" or a "savings/investment" framework – though the mechanisms in this case are rather more complex. From the trade side, a real depreciation of the currency is typically analysed as leading to a less-than-proportionate rise in export prices measured in domestic currency, which means that export prices fall when measured in terms of foreign currency. The result is that exporters now find exporting more profitable (since the prices they receive are higher in domestic currency terms), while foreigners' demand for the country's exports also rises (since these goods are now relatively cheaper when measured in their currency). The net effect is an increase in the volume of exports.

Similarly, a real depreciation causes the price of imports measured in domestic currency to rise, thus reducing demand for these goods and lowering import volumes. So long as the volume responses of imports and exports to the relative price shifts are sufficiently large to outweigh the negative terms-of-trade shift that arises because export prices rise less than import prices, the trade balance will improve. However, this also assumes that it is possible for a real depreciation to take place – in other words that the inflationary process set off by the lower exchange rate does not act to completely offset the initial change in relative prices.

When viewed in a "savings/investment" framework, the role of exchange-rate changes in promoting adjustment is of a more "general equilibrium" character. Assuming the existence of spare capacity in the economy, depreciation would induce an increase in the profitability of production in both export and import-competing sectors, leading to a rise in output. If macro-economic policies are geared to maintaining aggregate demand on a roughly unchanged path, then the rise in output relative to demand implies a corresponding increase in saving relative to investment. Alternatively, if output is constrained by capacity limits, depreciation would induce adjustment only if real domestic demand were reduced. This could come about in several ways. Macro-economic policies could constrain demand either directly or by inducing higher interest rates in the face of depreciation-induced increases in inflation. Real wealth effects, stemming from the terms-of-trade loss,

could also go in the direction of lowering real demand relative to output. On the other hand, a consideration of the general equilibrium consequences of an exchange-rate depreciation also identifies channels which might work in the opposite direction. For instance, if wages rise in the face of depreciation so as to maintain purchasing power, consumer demand might be sustained but the rise in real product wages could depress output. In this case, currency depreciation could lead to a worsening current-account situation over time rather than the expected improvement. If such effects operated powerfully, then one would expect that the measured trade responses to price changes would also be small – so that from a "trade perspective", the economy would fail to satisfy the Marshall-Lerner conditions.

Looking at the problem in a more global way, savings, investment, demand, output, exchange rates and trade flows are all endogenous, simultaneously-determined variables within a larger macroeconomic framework. These variables all adjust to each other according to certain behavioural relations and consistency constraints; but there is no simple way of inferring causality among these variables. Indeed, relationships among endogenous variables are often quite unstable, depending on what else is going on and, ultimately, on the nature of the external or exogenous pressures acting on the economy.

From this "systems" perspective, the adjustment process should be examined by looking at how changes in exogenous circumstances – and in particular, policy settings – affect external balances, through the simultaneous operation of all the economic relationships that characterise the system. The problem here is that such system results are sometimes difficult to understand – seeming to come out of a "black box" – and thus often lack credibility. And where views differ on the likely effects of policy actions, such system results – precisely because of their complexity – do not offer a very convenient framework for analysing, or narrowing, these differences. The quantitative simulations presented below are an attempt to decompose certain of the system results in terms of a few key mechanisms, so as to better understand the adjustment process.

In practical terms, it can make a difference whether adjustment is looked at from the savings-investment side or from the side of trade adjustment. Although, in a formal sense, these two approaches have to yield consistent answers, they focus attention on different aspects of the problem and tend to suggest different policy implications. A focus on savings-investment balances suggests that primary attention should be paid to budget deficits – public sector net borrowing – or to structural policies to influence private sector savings; a trade focus might, in the first instance, be seen as opening up a broader range of policy considerations.

More fundamentally, perhaps, and lying behind the choice of a framework for analysis, are judgements about the way economies function over the medium term

and about some of the key parameters. Two questions are important in this connection – the extent to which economies possess "self-equilibrating" properties and the length of the period over which economies adjust towards equilibrium.

The implicit answer coming from the experiments performed below is that for periods of even up to five years, "short-run" interactions between demand and output remain important, though some equilibrating mechanisms do begin to show significant effects. But on the issue of whether there are important longer-term effects of relative price changes on aggregate production and trade that are not captured by conventional approaches to measuring "elasticities", it is not easy to make a judgement.

In general, it has proved difficult to find strong empirical evidence of large "long-lagged" effects of relative price changes on trade flows. But this may to some extent be explained by the fact that recent history provides relatively few clear "episodes" to test this. The fact is that, while relative prices for manufactured goods produced by different countries have been subject to substantial short-run movements, these movements have not (over the past 25 years at least) been sustained, making it difficult to infer how trade flows might have responded in the longer term to sustained changes. Nevertheless casual empiricism suggests that the location of industry (internationally) and consumer preferences may both influence longer-term trade performance even though not captured by conventional elasticities. The conclusion must nevertheless be that, while large long-run effects from exchange rate changes could well be there in reality, if not in empirical models, this cannot be taken for granted and remains an uncertain hypothesis.

The analysis presented below adopts a trade, rather than a savings-investment focus, and, though it might be characterised as being based on a certain elasticity optimism, in the sense that the Marshall-Lerner conditions are met and hence exchange-rate changes "work", it does not incorporate any long-run effects of such changes. The analysis looks at reactions over a period of five years, with the results indicating that the dynamic interactions built into the model are still producing significant though in general damped changes by the fifth year. In other words an equilibrium is not achieved rapidly even if most of the impact effects are soon completed.

III. QUANTIFICATION OF THE ADJUSTMENT MECHANISMS

The nature of the simulation exercise

While the focus of the analysis is on the mechanisms of adjustment, it soon becomes clear that there is a degree of baseline dependency that can significantly influence any simulation results. This arises because of the interaction of net investment income flows, the current account and stocks of assets and liabilities. It is therefore important to take into account the imbalances described above. It is natural to concentrate on the imbalances in the largest economies even though some of the smaller countries, such as Australia, Denmark, the Netherlands, New Zealand and Switzerland, have recently had a run of current account surpluses or deficits which, as a share of GNP, have at least equalled those of the United States, Japan or Germany.

The simulation work presented below, which seeks to quantify the relative magnitudes of different mechanisms of adjustment, therefore concentrates in the main on the U.S. external deficit and the Japanese surplus and the way in which they might be reduced. But it is equally important to focus on the counterparts of any reduction in the U.S. deficit since it would be unfortunate if the reduction in the U.S. imbalance exacerbated imbalance elsewhere. Few countries, with the exception of Japan and, to a somewhat lesser extent, Germany, would welcome a substantial swing of their current accounts towards deficit. And many countries, both within the OECD but perhaps more importantly outside the OECD area, would be in serious economic difficulties should they be subject to further deterioration in their external accounts. This raises difficult questions of what sorts of adjustment would be consistent both with the achievement of feasible national goals and with "targetting" the counterpart of U.S. adjustment in a way that establishes a more sustainable pattern of current accounts globally. Although the focus of this article is on the technical issue of adjustment mechanisms, the analysis does have implications for the questions of which countries should adjust and whether adjustment can be targetted.

The remainder of the article focuses on a quantitative examination of various adjustment mechanisms. The three questions that have been most focused on in this respect are:

i) The role of relative domestic demand and GNP growth rates in the adjustment process (the "growth gap");

ii) The effectiveness of exchange-rate changes in promoting adjustment; and

iii) The link between the U.S. budget deficit and the U.S. external deficit (or – somewhat more broadly – the link between national savings and the current account).

In order to quantify the respective influences of "growth gaps", exchange-rate adjustment and budget deficit reduction on external adjustment, various simulations have been performed using the OECD's INTERLINK world model. Taking the actual and prospective path of the OECD economy over the period from **1984** to the end of **1988** as a benchmark, one or more aspects of the overall situation were assumed to have been different from this baseline case, beginning in **1984**[4]. The INTERLINK model was then used to assess how overall results, particularly current-account positions, might have changed by **1988** as a result of these assumed differences.

This approach, while in some ways less satisfying than a rigorously forward-looking exercise, offers several advantages. First, the period selected is long enough to permit some assessment of the *medium-term* effects of the different mechanisms. Second, the "initial conditions" for these experiments are qualitatively similar to those currently prevailing: imbalances in **1984** were already substantial; rates of capacity utilization were not dramatically different from today's; and inflation – though higher than at present – had already been brought down substantially. These considerations are relevant because the intention is not simply to conduct a historical exercise whose validity is limited to the period considered, but to provide "rules of thumb" that are relevant to today's policy debates, at least as orders of magnitude.

Some general comments are, however, necessary. First, the results reported below rely on average responses of different variables over the past. In any forecasting exercise, it would be necessary to make judgements about how particular circumstances, including structural change, might modify such responses in the present and the future. Second, there are nevertheless important baseline dependencies for simulated changes in current-account balances though not, in general, for output and inflation numbers. These dependencies arise both from the larger initial imbalance and the larger gross trade flows which occur the more recent the period of simulation. Thus, experiments that have used a five year period starting in **1987** show current-account changes that are about one fifth higher than those reported below for a period starting in **1984.** Finally, the various adjustment mechanisms analysed below are "pure" cases, with some of them being rather unlikely to occur in reality. But they are used as "thought experiments" in order to present an assessment of the orders of magnitude associated with each stylised mechanism.

Differential growth rates

The effects on the current-account imbalances of a change in the differential between growth in the United States and growth in the rest of the OECD area can be considered in relation to two polar cases – one with slower U.S. growth, and the other with faster growth elsewhere. The relative merits of the two cases could not of course be evaluated solely in terms of their consequences for external adjustment: one case involves a global lowering of growth, the other an increase.

Lower U.S. demand. With unchanged exchange rates, a one percentage point lower rate of growth of U.S. total domestic demand is estimated to lead to a steady improvement in the U.S. current account, amounting to around US$30 billion (or about ⅔ per cent of GNP) in the fifth year and cumulatively by about US$75 billion (Table 2). U.S. GNP would decline by less than domestic demand, with the improvement in the external account making up the difference. The exact magnitude of the improvement depends, inter *alia,* on the way in which the demand reduction comes about. For the results presented here, it was assumed that interest rates remained fixed and that a downward adjustment of private consumption was the reason for the demand reduction. But larger or smaller results would be possible

Table 2. Lower U.S. **domestic demand**
Differences from baseline

		1984	1985	1986	1987	1988	1984-88
Current balance	**USA**	3	8	14	22	30	77
($ billion)	Canada	0	–1	–1	–2	–2	–6
	Japan	**–1**	–3	–6	–9	–12	–31
	Germany	0	–1	–3	–4	–6	–14
	Other OECD	–2	–3	–5	–8	–12	–30
Real GNP	**USA**	-0.6	-0.9	-0.8	-0.8	-0.7	–3.8
(% change)	Rest of OECD	–0.1	-0.2	-0.2	-0.3	-0.2	–1.0
	Total OECD	-0.3	-0.5	-0.5	**-0.4**	-0.5	–2.2
Real domestic demand	**USA**	-0.7	–1.0	–1.0	–1.0	-0.9	–4.5
(% change)	Rest of OECD	0.0	**–0.1**	-0.1	**-0.1**	**-0.1**	-0.5
	Total OECD	-0.3	-0.5	-0.5	-0.5	**–0.4**	–2.2
GNP deflator	**USA**	0.0	**-0.2**	**-0.4**	–0.7	–0.9	–2.2
(% change)	Rest of OECD	0.0	-0.1	-0.1	–0.2	-0.2	–0.6
	Total OECD	0.0	-0.1	**-0.3**	-0.4	-0.4	–1.2

Notes: The growth rate *of* real total domestic demand in the United States is lowered by 1 percentage point in each year. Exchange rates are kept fixed. Interest rates are assumed to remain fixed at baseline **levels** while monetary aggregates adjust. The lower demand is targetted by changing private consumption.

if the reduction originated in elements of demand with respectively higher or lower import contents.

The major mechanism producing the current-account improvement is a decline in U.S. imports, reflecting a relatively high elasticity of import demand with respect to overall domestic demand. In addition, improved U.S. competitiveness through lower inflation would also play a role. The counterpart to the improvement in the U.S. current account would be a weakening of the Japanese current account in the fifth year by about US$12 billion, that of Germany by US$6 billion, and that of the rest of the OECD by about US$14 billion, fairly evenly spread in relation to economic size. Because of the trade links with the United States, output in OECD countries other than the United States would fall somewhat (by about one percentage point compared with baseline by the fifth year), implying also some offsetting reduction in U.S. exports. Adjustment of this sort thus involves a substantial cost through the reduction in world growth, but allows some unwinding of the imbalances.

Higher demand outside the United States. In the case of one percentage point faster growth of total domestic demand in OECQ countries other than the United States, the adjustment mechanisms are qualitatively analogous to those in the case of lower U.S. demand but the impacts are quantitatively quite different in two respects. First, the overall improvement in the U.S. current account is significantly smaller – only about US$20 billion in the fifth year and US$50 billion cumulatively (Table **3)**. Second, the distribution of the counterpart is quite different: the Japanese and German surpluses might actually increase, as higher exports to countries other than the United States would more than offset the increase in their imports. Non-OECD countries would benefit from higher OECQ growth and the expansion of world trade *so* that both their exports and their imports could rise.

The result that *uniformly* faster growth outside the United States would fail to reduce the German and Japanese surpluses raises an important question. If faster growth outside the United States was being counted on to play an important role in promoting adjustment, the relevant "scenario" would be one in which the rise in domestic demand growth was differentiated among countries, with the largest increase in countries with large surpluses. But the implication then is that substantially more than a one percentage point increase in German and Japanese growth would be needed to achieve the overall adjustment in the U.S. deficit estimated above, since other countries would be growing more slowly. Alternatively, if domestic demand in Japan and Germany alone was assumed to expand "autonomously" at a 1 per cent faster rate, with demand growth elsewhere boosted only through "spillover" effects, then the Japanese and German surpluses would be reduced (they would not gain much from the stimulus to demand elsewhere), but the

Table 3. Higher OECD domestic demand outside the United States

Differences from baseline

		1984	1985	1986	1987	1988	1984-88
Current balance ($ billion)	USA	2	5	8	13	21	49
	Canada	0	–1	–2	-4	–5	–12
	Japan	0	0	2	3	4	9
	Germany	0	1	4	4	4	13
	Other OECD	–2	–4	–10	–14	–22	–52
Real GNP (% change)	USA	0.1	0.2	0.2	0.3	0.3	1.1
	Rest of OECD	0.7	0.9	0.9	0.9	0.9	4.3
	Total OECD	0.5	0.6	0.6	0.6	0.6	2.9
Real domestic demand (% change)	USA	0.0	0.1	0.1	0.1	0.1	0.4
	Rest of OECD	0.7	1.0	1.0	1.0	1.0	4.7
	Total OECD	0.4	0.6	0.6	0.6	0.7	2.9
GNP deflator (% change)	USA	0.0	0.0	0.1	0.2	0.2	0.6
	Rest of OECD	0.1	0.2	0.5	0.8	1.1	2.7
	Total OECD	0.1	0.2	0.3	0.5	0.7	1.8

Notes: The growth rate of real total domestic demand is raised by 1 percentage point in each year in all OECD countries except the United States. The other assumptions are the same as for Table 2.

impact on the U.S. deficit would be relatively modest. By the fifth year the U.S. deficit might be about US$5 billion less while the German surplus might be reduced by about US$9 billion and that of Japan by about US$6 billion, the remaining US$10 billion being an improvement in other OECD countries.

An important aspect of these experiments is the "asymmetry" in terms of adjustment impact between slower U.S. growth and faster non-U.S. growth. There are basically three elements lying behind this result and two of them, at least, appear relatively robust in a technical sense. These three elements are the following:

First, the U.S. elasticity of imports with respect to domestic demand is generally regarded as being rather higher than that elsewhere and in any case greater than the income elasticity of demand for U.S. exports[5]; U.S. imports therefore decline to a greater extent in reaction to lower U.S. demand than U.S. exports respond in relation to an increase in non-U.S. demand. If the U.S. income elasticity of demand for manufactured imports were reduced to the average elsewhere, then the fifth year improvement of about US$30 billion in the U.S. current account from lower U.S. demand would be reduced by about US$5 billion. Similarly, if the rest of the world's elasticity were raised to the

U.S. value, then the fifth year improvement in the U.S. current account from higher OECD demand outside the United States might be about US$5 billion higher.

Second, even if income elasticities of imports and exports for the United States were the same, the fact that imports of goods and non-factor services are about 50 per cent greater than exports means that, initially, the impact on the **U.S.** current account of a slowdown in U.S. growth would be larger than for an increase in foreign growth of the same magnitude. This effect would, of course, weaken over time as the deficit narrowed and exports caught up with imports, thus reducing the influence of the initial imbalance.

Finally, the two experiments are not in fact symmetrical. A substantial share of U.S. exports goes to non-OECD countries. **A** fully symmetrical treatment for this "thought experiment" would suggest raising demand growth by 1 per cent in all countries other than the United States, including the non-OECD.

The behaviour of non-OECD countries. In conducting these experiments, one has to make an assumption, explicitly or implicitly, about the behaviour of non-OECD countries. The assumption adopted for all the simulations reported in this note is that the non-OECD countries react rapidly to the changes in their export revenues induced by the various shocks in such a way that their current-account positions remain close to their baseline values. In the case of slower U.S. demand growth, this means that non-OECD countries lose export revenues and adjust their imports down. This reaction compounds the initial deflationary impulse in the United States. In the case of a demand pick-up in the rest of the OECD, the non-OECD is assumed to rapidly respend its enhanced export revenues, hence reinforcing the initial stimulus.

The rationale for this assumption is that non-OECD countries typically face financial constraints; if reductions in export revenues cannot be offset by additional financing then imports have to be cut *pari passu;* and increases in export revenues would lead to additional imports given the strong demand of such countries for imports[6]. However, it is also possible that the adjustment is much slower than assumed here. If imports react with a lag to changes in export revenues, then non-OECD current-account deficits could widen in aggregate as part of the counterpart to a reduced U.S. deficit. Conversely, faster OECD growth outside the United States, implying a rise in export receipts for non-OECD countries, could give rise to a lagged increase in their imports and a net improvement in their current accounts. This would represent a "shock absorber" role for non-OECD countries, a situation which is broadly consistent with average historical experience before the period when external finance became a more pervasive constraint. Adopting a

"shock-absorber" assumption rather than the rapid respending assumed for the numbers presented above would tend to intensify the overall growth gap asymmetry indicated by Tables 2 and 3, perhaps by about US$5 billion. There is a third possibility, however. If the "regime" under which non-OECD countries operate were one of maintaining their debt-to-export ratios on a given track, then any rise in export revenues would allow a more-than-proportional increase in imports; conversely, a reduction in their export revenues would allow an accelerated cut-back in imports. Such an "accelerator" hypothesis would tend to reduce the assymetry shown in Tables 2 and 3 or even reverse it.

There are clear limitations on the practical conclusions that can be drawn from the preceding thought experiment, and even greater questions about its policy implications. Two points should be emphasized:

First, the experiment takes a partial view of the adjustment process. It considers only how current accounts might respond to one of their proximate determinants – demand growth – without asking how such differential demand growth might come about. The authors' judgement is that the partial relationship between domestic demand patterns and current-balance developments is reasonably robust, but that the policies chosen to achieve the assumed differentials in demand growth could influence the results to some extent, and could also have important side effects on other aspects of economic performance – inflation, for instance – that might in fact be of overriding concern.

Second, slower U.S. demand growth – even if relatively more powerful for adjustment than faster demand growth outside the United States – would bring obvious disadvantages: lower real growth and higher unemployment worldwide and considerable pressure on non-OECD countries in reducing import volumes.

Exchange-rate changes

The second adjustment mechanism considered is that of exchange-rate changes. In the circumstances of the present and projected imbalances the focus is naturally on the implications of a further depreciation of the dollar and an appreciation of the yen. It is of course unlikely that actual movements of exchange rates would so neatly reflect relative current-account positions, but this exercise seeks to examine the mechanisms of adjustment themselves rather than the policies by which such mechanisms might be activated.

A lower dollar. It is estimated that a depreciation of the dollar by 20 per cent against all other OECD currencies, which was sustained, would lead to an improvement in the U.S. current account of between US$35–75 billion (or roughly ¾ to 1½ per cent of GNP) by the fifth year. This range spans the effects of different plausible policy reactions both in the United States and in other countries. Extreme policy reactions could generate substantially larger or smaller current-account impacts.

In the central case summarised in Table 4, with no adjustment to rates of growth of the monetary aggregates, adverse J-curve effects in the first year could lead to a deterioration in the U.S. current account of about US$20 billion, but this would be reversed in the second year and the cumulative change in the current account would be positive from the third year and build up to around US$135 billion after five years. The counterparts to this would be an initial first year improvement elsewhere followed by a deterioration in the current account – most marked in Japan (US$24 billion in the fifth year), but also important in Germany (US$9 billion); GNP levels, both in the United States and abroad, are broadly back to baseline levels by the end of the period, though U.S. GNP initially rises above baseline before falling

Table 4. U.S. dollar 20 per cent lower
Differences from baseline

		1984	1985	1986	1987	1988	1984-88
Current balance ($ billion)	**USA**	–21	20	33	**48**	56	136
	Canada	3	–5	–5	–5	-4	–16
	Japan	13	–1	–6	–17	–24	–35
	Germany	9	2	–4	–6	–9	**-8**
	Other OECD	**6**	–9	–15	–21	–23	–62
Real GNP (% change)	**USA**	0.8	0.1	–0.1	-0.3	-0.6	-0.1
	Rest of OECD	0.2	-0.4	-0.2	-0.3	0.1	-0.6
	Total OECD	0.5	-0.2	-0.2	-0.3	–0.2	**-0.4**
Real domestic demand (% change)	**USA**	-0.3	-0.7	-0.7	-0.6	-0.5	–2.7
	Rest of OECD	0.6	0.3	–0.1	-0.3	0.1	0.6
	Total OECD	0.2	-0.1	**-0.4**	**-0.4**	**-0.1**	**-0.8**
GNP deflator (% change)	**USA**	**-0.4**	1.9	1.3	1.6	1.7	6.1
	Rest of OECD	-0.5	–1.2	-0.5	0.0	-0.2	–2.4
	Total OECD	-0.5	0.1	0.2	0.5	0.5	**0.8**

Notes: The U.S. dollar is exogenously lower by 20 per cent against all other currencies in the first half of 1984, this reduction being sustained through the rest of the period. Apart from this change, which represents a **25** per cent appreciation of other countries' bilateral rates against the dollar, exchange rates remain fixed. The growth of monetary aggregates is assumed to remain unchanged from the baseline while interest rates adjust.

back. The price level in the United States is about 6 per cent higher by the end of the five-year period, implying a substantial rise in nominal interest rates under the monetary policy assumption adopted, and there is a fall of about 2½ per cent in the price level abroad, relative to the baseline.

A higher yen. A sustained appreciation of the yen of 20 per cent in effective terms would, on the same policy assumptions, lead to a deterioration in the Japanese current account of about US$45 billion in the fifth year and cumulatively by about US$1 15 billion over the five years (Table 5). Other OECD countries might be major gainers – the United States by US$14 billion in the fifth year, Canada by about US$5 billion, Germany by about US$4 billion and other OECD countries by about US$20 billion in total. For Japan, inflation would tend to be substantially lower and domestic demand would be substantially higher, but the deterioration in the real foreign balance would lead to a fall in output in the first two years followed by a return to roughly the same level of output as in the baseline by the fifth year. For other countries inflation might be marginally higher but output would be little affected, even though domestic demand might contract, because of better net export performance.

Table 5. **Yen** 20 **per** cent **higher**

Differences from baseline

		1984	1985	1986	1987	1988	1984-88
Current balance	Japan	6	–15	–28	–37	-43	–117
($ billion)	**USA**	-4	3	6	10	14	29
	Canada	1	2	3	4	5	15
	Germany	1	**2**	- 5	5	4	17
	Other OECD	5	8	14	17	20	64
Real GNP	Japan	-0.4	-0.9	–0.1	0.5	1.0	0.1
(% change)	Rest **of** OECD	0.1	0.1	-0.2	-0.2	–0.2	**-0.4**
	Total OECD	0.0	0.0	–0.2	-0.1	0.0	-0.3
Real domestic demand	Japan	0.9	0.7	0.3	0.7	1.2	3.8
(% change)	Rest **of** OECD	-0.1	0.0	-0.2	–0.2	-0.5	–1.0
	Total OECD	0.0	0.0	-0.2	-0.1	0.0	-0.3
GNP deflator	Japan	***-0.6***	–1.6	–1.4	–1.2	–1.4	–6.2
(% change)	Rest **of** OECD	0.1	0.6	0.6	0.5	0.5	2.3
	Total OECD	0.0	0.3	0.3	0.3	0.2	1.1

Notes: The Japanese yen is exogenously higher by 20 per cent against all other currencies in the first half of 1984, this reduction being sustained throughout the rest of the period. The other conditions are the same as in Table 4.

The difficulty with assessing the impact of exchange-rate changes is that the processes are extremely complex, both conceptually and in terms of the economic dynamics that are set in train. The essential point here is that exchange-rate changes influence the current-account balance both directly – through substitution effects resulting from relative price changes – and indirectly, by influencing inflation, profitability, output, and demand both at home and abroad. The nature of these indirect effects on the current account, which can be large, is in turn dependent on the policy responses assumed, and can work either to offset the direct effects of depreciation or to enhance them. The basic implication is that whether or not exchange-rate changes can be effective in promoting adjustment in the medium term depends crucially on the way economic policies respond.

In order to assess the relative importance of the direct and indirect effects, it may be useful to consider two somewhat artificial "benchmark" results, arrived at by blocking-off some of the indirect effects that influence the outcomes presented above. For this purpose, the case of a 20 per cent dollar depreciation is analysed, though qualitatively similar effects would emerge from alternative experiments with other currencies, the main differences arising from the degree of openness of the country. Thus:

i) If real total domestic demand both in the United States and abroad were simulated to remain unchanged from baseline values, then the rise in import prices and increased competitiveness of U.S. goods abroad would lead to an increase in output in the United States (as well as a rise in inflation) and a corresponding fall in other countries. After five years, GNP in the United States would be about two percentage points higher, the domestic price level about 7 per cent higher, and the current-account deficit about US$35 billion lower. Effects abroad would be symmetrical, though smaller in percentage terms: GNP would be about 1 per cent lower and the domestic price level about 2 per cent lower. If this experiment is considered as capturing the "substitution" effects resulting from an exchange-rate change, these appear relatively modest. It is important to note, however, that the shift in the "real" trade balance in this example amounts to about 2 per cent of GNP; about two-thirds of the effect on the value of trade flows of this real improvement is, however, offset by the adverse terms-of-trade movements. The large initial imbalance in the U.S. current account tends to amplify the effect of this terms-of-trade deterioration in reducing the extent of current-account improvement.

ii) An alternative way in which one might seek to measure how an exchange-rate change, by itself, would affect substitution between production for home and for foreign markets would be to hold real GNP

rather than domestic demand unchanged at its baseline values. This would imply restricting the growth of domestic demand in the United States by an amount equal to the improvement in real net exports, and conversely outside the United States. In this case, the improvement in the U.S. current account would be, by the fifth year, about US$75 billion; domestic demand in the United States would be about 3 per cent lower than baseline by the end of the period and the domestic price level about 5 per cent higher.

For a range of plausible policy regimes, the estimated current-account impacts of exchange-rate changes fall within the range defined by these two benchmarks. However, different results are also possible. For example, if the policy objective of the United States were to broadly offset the rise in inflation generated by dollar depreciation by the end of the period (so that the inflation rate, though not the price level, returned to roughly what it would have been in the absence of depreciation), a current-account improvement of the order of US$1 10 billion could occur by the fifth year – though GNP would be some 3 per cent lower because of the restrictive policy stance required. If, alternatively, the policy objective in the United States were to maintain nominal interest rates broadly unchanged, both inflation and GNP would be higher after five years, and the current account would improve by only about US$40 billion in the fifth year.

There are several general features emerging from these, and some other plausible alternative experiments that have been considered but which are not reported here explicitly, that appear relevant:

First, the extent of current-account adjustment resulting from an exchange-rate change depends on how domestic policies respond, a result which goes back to Mundell-Fleming. In the case of dollar depreciation, the policy response in countries outside the United States to the weakening of their net exports has important effects on their overall growth and inflation performance. Perhaps surprisingly, however, the degree of U.S. current-account adjustment does not appear to depend to a large extent on the policy regime adopted abroad. It should nevertheless be noted that the simulations do not explore the potentiai cumulative consequences of restrictive policy action that might be taken in response to deteriorating current-account positions in other countries.

Second, the effects of exchange-rate changes take a long time to work themselves out in full. This is not only because of the lagged adjustment of trade flows to relative prices, but also because of feedback effects from the overall economy. This can be illustrated by considering the case of a currency depreciation accompanied by a monetary policy that aimed to stabilize nominal

interest rates. From a long-run perspective, one would expect such a response to be largely self-defeating for adjustment – not putting any monetary resistance to the depreciation-induced inflation pressures would seem to imply a permanent rise in inflation that would progressively undo the competitiveness effects resulting from depreciation. Yet even after five years the current balance continues to show considerable improvement – in part because the rise in inflation is generating short-run "favourable" effects on export values during this period, while storing-up "unfavourable" consequences for the future.

Third, the effects of exchange-rate changes on current-account positions, though substantial in most cases, are a good deal more modest than the very large *real* effects on net export volumes, and corresponding shifts in real output and demand. To put it in a different way: while the basic point about adjustment remains that for a country in deficit, adjustment requires that domestic demand growth must be less than output growth, and conversely for a country in surplus, the fact remains that when this pattern is brought about via exchange-rate changes, the degree of actual adjustment achieved on nominal current-account positions is very much reduced by offsetting adverse price effects. This proposition is equally valid whether one considers the case of the United States or that of Japan.

Finally, it has to be noted that these experiments are to some extent flawed. While the precise determinants of exchange-rate movements are not well understood, so that a hypothetical 20 per cent dollar depreciation could be imagined as stemming from some sort of exogenous "change in market sentiment", the fact is that exchange rates are influenced also by policies. Thus some of the "extreme" adjustment scenarios may be unrealistic. To take an example, one could question whether a 20 per cent dollar depreciation would indeed be sustained in the face of policies that sought, in the United States, to offset the inflation impact of depreciation and, abroad, to offset the negative GNP consequences. In this context, it may be more appropriate to interpret the simulation results less as a measure of what policies might strive to achieve than as an indication of how adjustment would come about, in the absence of explicit corrective policies, if markets "got their teeth" into the notion that the external imbalances were unsustainable.

Reductions in the U.S. budget deficit

A central issue in any consideration of how reduction in the U.S. budget deficit would affect the external account is whether such action would lead to a fall in the

dollar – and by how much. The association of the rise in the dollar over 1981-85 with the emergence of the deficit would argue for such a link. But the dollar has fallen substantially since then, in advance of any change in the actual U.S. budget deficit; and it could be argued that the "confidence" effects of U.S. deficit reduction would outweigh the effects on the dollar from induced lower real interest rates. Much might depend on whether or not interest rates abroad matched any induced declines in U.S. rates. In view of the uncertainties, and to keep the story as clear as possible, the experiment reported here holds the exchange rate unchanged.

Abstracting then from induced exchange-rate changes and assuming unchanged growth of monetary aggregates over the medium term, thus allowing interest rates to fall, ***an ex post reduction of the U.S. budget deficit of ½ per cent of GNP per year*** (about US$20 billion annually) over five years might reduce the current account deficit by about US$55 billion or about 1¼ per cent of GNP in the fifth year (Table 6). About half of the counterpart to this current balance improvement would be seen in a deterioration in Europe's current account, with slightly less in Japan. Globally the U.S. budget deficit reduction, if not offset by action elsewhere, would tend to be deflationary – output would be reduced, not only in the United States but also elsewhere, inducing lower inflation. Lower interest rates outside the Unitea

Table 6. U.S. budget deficit reduction

Differences from baseline

		1984	1985	1986	1987	1988	1984-88
Current balance	USA	5	14	27	40	53	139
($ billion)	Canada	–1	–2	–2	–3	-4	–12
	Japan	–2	–5	–10	–15	–21	–53
	Germany	–1	–2	–5	–8	–9	–25
	Other OECD	–1	–5	–12	–15	–18	–51
Real GNP	USA	-0.5	**-0.9**	**-0.6**	-0.3	-0.1	–2.4
(% change)	Rest of OECD	-0.1	-0.3	-0.2	-0.1	0.0	-0.7
	Total OECD	-0.3	-0.6	-0.3	-0.2	0.0	–1.4
Real domestic demand	USA	**-0.7**	–1.2	**-0.9**	-0.6	-0.4	–3.8
(% change)	Rest of OECD	0.0	-0.1	4.1	0.1	0.2	0.1
	Total OECD	-0.3	-0.6	-0.4	-0.3	0.0	–1.5
GNP defiator	USA	0.0	-0.2	-0.5	-0.7	-0.9	–2.3
(% change)	Rest of OECD	0.0	-0.1	-0.1	-0.1	-0.3	-0.7
	Total OECD	0.0	-0.1	-0.3	-0.4	-0.6	–1.4

Notes: The U.S. budget deficit is reduced, *ex post,* by ½ per cent of GNP in each year (by 2½ per cent over the five years). This is done by targetting net lending of government by changing non-wage government consumption. Exchange rates are kept fixed. The growth of monetary aggregates is assumed to remain unchanged from the baseline while interest rates adjust.

States could, however, substantially offset the decline in output that would otherwise result from weaker net exports.

If exchange rates are unchanged while the U.S. budget deficit is reduced, the mechanism by which adjustment comes about in the United States can be described as follows:

- A reduction in domestic demand reflecting the deficit reduction;
- A consequent reduction in domestic inflation and a gain in competitiveness;
- An improvement in the real foreign balance reflecting the two above factors;
- And hence a more moderate fall in output growth than in domestic demand, the switch in resources that enables the external deficit to adjust.

With interest rates falling and the real foreign balance turning round, the initial fall in output is eventually reversed. This may not be clear in simulations of a phased cut over a five-year horizon; but it is more apparent in the case of an immediate once-for-all cut in the deficit, where the initial shock is more severe and the recession is much deeper in the first two years, but where the growth rate of **GNP** is faster than in the baseline by the third year, with the level of **GNP** moving rapidly back towards baseline. In this "quick medicine" case, the current balance gain occurs more rapidly and, even though the fifth-year effect on the current balance is much the same (at about US$50 billion or 1 per cent of **GNP),** this occurs at a higher level of activity than in the case of a phased deficit cut. The higher level of imports entailed is offset by a somewhat greater improvement in competitiveness (because of lower domestic prices and costs) and a better position on investment income, reflecting the more immediate turnround in the current balance. Even with a phased cut, however, the effects of temporarily-lower demand and increased competitiveness reduce the build-up of net foreign liabilities and hence improve the flow of net investment income.

Countries outside the United States would be affected by the temporary lowering of demand in the United States and the associated reduction of inflation and interest rates; growth and inflation in the rest of the area would be lower and, depending on the setting of domestic monetary policy, there would also be the possiblility of lower interest rates. But the downward movement of all of these variables in the rest of the world would tend to be smaller than in the United States, the relatively more muted nature of this adjustment tending to go along with a deterioration of their current balance to roughly the same extent as the U.S. improvement. While the policy regime in these countries would have an important

effect on the way *they* adjusted domestically to the **U.S.** action, the repercussions on the United States would tend to be rather small in comparison with the domestically-induced adjustments arising from the initial U.S. budget cuts.

The ***joint effect of a U.S. budget deficit reduction and a dollar depreciation*** would depend on the magnitudes involved. In general the deflationary effect of the budget cuts would tend to be partly offset by the output improvements that might be generated by the weaker dollar, while the inflation boost coming from the weaker dollar would tend to offset the reduction in inflation stemming from the weakening of demand implicit in the budget cuts. The effect on the current balance would be greater than either a depreciation or a deficit reduction taken separately, indicating a wider differential between domestic output and demand, and a larger net increase in domestic savings. This is akin to the traditional devaluation strategy where the exchange rate change is combined with a deflationary policy to reduce domestic absorption and allow the transfer of resources to the foreign sector – a mixture of expenditure-reducing and expenditure-switching policies. While this sort of policy mix might indeed prove fairly effective in reducing the U.S. current account, it suffers, as with all the correction mechanisms which are concentrated on the United States, from the fact that the counterpart deterioration in the current accounts of the rest of the world, transmitted by the U.S.-induced slowdown in world trade and growth, would not be solely concentrated in the surplus countries where the adjustment might best take place. Even *so,* about two-thirds of the offsetting changes in the current account by the fifth year would probably be seen in a reduction of the Japanese and German surpluses.

CONCLUSIONS

In considering the various mechanisms by which the present pattern of current-account imbalances might unwind, and in asking the question of what adjustments should be made, it soon becomes clear that there are important trade-offs between the various policies or paths that might be followed. In particular, it is important to be clear about what needs to be adjusted. If the focus is on the United States external deficit, then the most efficient way of dealing with the imbalance is by action targetted on the United States. Although such action would also have a beneficial impact in reducing the Japanese surplus, the most efficient way of reducing the Japanese surplus would in turn be to target action on Japan.

But other considerations have to be taken into account. Whiist most estimates of the U.S. current-account correction arising from slower U.S. growth would be higher than estimates of the correction arising from correspondingly faster non-U.S. growth, it needs to be borne in mind that:

- Slower U.S. growth would have deleterious consequences, not only within the United States but also in the rest of the world:
- The counterparts to the U.S. external correction would be spread indiscriminately, with deficit countries within the OECD suffering a worsening external position as well as those surplus countries where some reduction would be desirable, or at least acceptable: the developing countries would also find it difficult to adjust to the lowering of their exports which would be entailed.

One therefore needs to ask broader questions about how action or adjustment could be better distributed and whether there is the room for targetting action in certain cases. After all, few would deny that it would be best if the correction of current-account imbalances could be achieved at the highest feasible rate of non-inflationary world growth. An adjustment which involved the United States growing well below its potential growth rate would be regrettable if there were the alternative of certain surplus countries growing faster without inflationary risk. But, given the size of the U.S. deficit and the relative ineffectiveness of stronger non-U.S. growth in reducing that deficit, it is probably necessary to look at a range of possible mechanisms in order to moderate the imbalances without forcing countries into too deflationary or too inflationary positions. A combination of some slowing in the United States, induced by further reductions in the budget deficit, a degree of faster growth in surplus countries and some further movement in exchange rates might be a less disruptive means of unwinding imbalances than other methods which might appear better at more immediately correcting particular imbalances but which might have unfortunate side-effects.

NOTES

1. The INTERLINK model is described in Llewellyn and Richardson (1985) and Holtham (1984), both of which contain further references to earlier research on the model.
2. The exceptional nature of recent imbalances and the issue of their financing is discussed in the section on 'International Monetary Developments' in *OECD Economic **Outlook** 40,* December 1986. The prospective imbalances referred to in the following sentences are taken from the same source.
3. This approach was adopted by Turner (1986) in a detailed analysios of savings-investment balances for the major seven OECD countries over the period 1965 to 1984.
4. The baseline case used was a set of history and forecasts developed by the OECD Secretariat in the autumn of 1986 and subsequently published in a slightly modified form in OECD *Economic **Outlook 40,*** December 1986.
5. This has been found to be the case in numerous studies. See, for example, Stern *et al.* (1976) and Kenen and Pack (1980) for a survey and discussion of the relevant trade elasticities.
6. The links between OECD countries and certain groups of non-OECD countries are discussed in Saunders and Dean (1986) which sets out a debt model for twelve of the most indebted developing countries and links key financial ratios in these countries with the performance of the OECD economies.

APPENDIX

Note on the simulations

The simulations reported in Tables 2 to 6 in the text were carried out with the OECD's INTERLINK world model. The period used for each simulation was 1984 to 1988, with the **OECD's** Autumn 1986 short-term forecasts being used for the period to the first half of 1988 and with the last half-year being extrapolated. In each case this baseline was "shocked" **by** changing certain conditions from the first half of 1984. Government wage expenditures were assumed to be endogenous while non-wage government consumption was assumed to be unchanged from baseline in nominal terms, with the exception of the United States in the fifth simulation where it was used as an instrument. The results for the major countries reported in the tables focus on simulated changes in GNP, as an indicator of national income. The movements of GDP can differ somewhat because of movements in net investment income. The technical details about each simulation are given in the notes below each table.

The assumption for ***non-OECD countries*** in all the simulations is that their current-account balances remain unchanged. This is carried out in a technical sense by exogenising their imports and using these **as** an instrument with which to target the current balance. In other words, it is assumed that any change in export receipts immediately affects imports. The rationale for this assumption **is** that non-OECD countries are in general financially-constrained. The issue is discussed in Part III of the main text in the section on differential growth rates, with information being given on the implications of different patterns of import behaviour.

The ***world current-account discrepancy,*** curently running at an annual rate of about US$80 billion, changes in simulation. In most cases such changes, which are the logical result of globally-inconsistent data, are not large relative to the current-account increments for the major countries. But in the case of simulations where exchange rates and interest rates changes (as in Tables **4** and 5), the incremental world discrepancy can become quite large – about half of the size of the change in the U.S. current balance in the case of the lower dollar simulation. This arises because the major part of the world discrepancy is concentrated in investment income and non-factor services which are particularly sensitive to changes in exchange rates and interest rates. In the two cases where this factor is important, namely the lower dollar and higher yen simulations (Tables 4 and 5), the incremental discrepancy has been distributed across countries according to the gross flows of investment income and non-factor services. As one example of the magnitudes involved, this procedure increased the 1988 increment to the U.S. current balance by about US$5 billion taking it up to the US$56 billion indicated in Table **4.**

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