

Table 2.7. Hourly productivity growth
(average annual percentage growth rates)

	1950s	Early 1960s	Late 1960s	Early 1970s
<i>US</i> ^a				
Business	4.1	2.9	3.9	2.1
Manufacturing	3.3	1.8	3.9	4.2
<i>Japan</i> ^b				
Business	7.7	9.9	10.7	7.8
Manufacturing	9.0	8.6	11.4	9.5
<i>Germany</i> ^c				
Business	(6.6)	5.8	6.3	5.4
Manufacturing	6.8	6.8	6.2	5.0
<i>UK</i> ^d				
Business	1.9	2.4	3.0	3.3
Manufacturing	2.9	3.4	4.1	5.1
<i>France</i> ^e				
Business	4.9	5.5	5.6	6.3
Manufacturing	5.5	6.5	7.6	6.1
<i>Italy</i> ^f				
Business	5.8	7.3	6.9	7.0
Manufacturing	5.8	8.1	7.3	8.6

^a 1948-53, 1953-60, 1960-6, 1966-9, 1969-73: Kendrick and Grossman (1980).

^b 1954-61, 1961-4, 1964-70, 1970-3: Dennison and Chung (1976).

^c 1952-61, 1961-5, 1965-69, 1969-73: Volkswirtschaftliche Gesamtrechnungen.

^d 1950-60, 1960-5, 1965-9, 1969-73: National Income and Expenditure.

^e 1951-60, 1960-6, 1966-70, 1970-3: DMS disaggregated data-set.

^f 1951-61, 1961-6, 1966-70, 1970-3: Annuario di Contabilita.

Sources: Manufacturing data adjusted and updated from *US Bureau of Labor Statistics, Underlying Data for Indices of Output per Hour* (1984). Business data main sources as indicated above. Dating is cyclical peaks.

ence in the early 1970s with what would have been expected on the basis of the achieved growth of fixed capital per worker. As compared to the early 1960s, the capital/labour ratio grew faster in the biggest six countries over the early 1970s. This 'should', according to the relationship obtaining in the golden age already described, have led to hourly productivity growth increasing by around 0.5 per cent p.a. in business and manufacturing. In actual fact it declined by on average 0.5 per cent p.a. in business and by 0.1 per cent p.a. in manufacturing. So, relative to accumulation, there was a distinct decline in labour productivity growth. The trend of the output/capital ratio should have also deteriorated a little¹⁶ but the failure to get the 'expected' labour productivity improvement, means that the

Table 2.8. Output/capital ratios
(average annual percentage growth rates)

	1950s	Early 1960s	Late 1960s	Early 1970s
<i>US</i>				
Business	0.4	2.6	0.4	0.9
Manufacturing	-1.5	4.5	-1.6	1.3
(adj. cap. ut.)	0.4	1.6	-0.1	1.4
(adj. hrs.)	—	—	—	—
<i>Japan</i>				
Business	4.6	-0.3	0.2	-3.4
Manufacturing	5.0	-3.4	0.5	-2.4
(adj. cap. ut.)	3.5	-1.1	-0.4	0.1
(adj. hrs.)	4.5	-2.4	1.5	-1.4
<i>Germany</i>				
Business	0.4	-2.6	-1.8	-2.3
Manufacturing	0.3	-1.6	-0.3	-2.1
(adj. cap. ut.)	0.3	-1.6	-0.3	-1.5
(adj. hrs.)	1.3	-0.8	-0.3	-1.2
<i>UK</i>				
Business	-0.2	0.4	-1.5	-0.7
Manufacturing	-1.3	-0.1	-0.4	-0.7
(adj. cap. ut.)	-1.2	0.4	-0.2	-1.1
(adj. hrs.)	-1.2	0.6	0.1	0.3
<i>France</i>				
Business	(2.0)	1.6	0.2	0.1
Manufacturing	—	2.3	1.7	0.0
(adj. cap. ut.)	—	1.7	1.3	0.8
(adj. hrs.)	—	1.7	2.1	0.3
<i>Italy</i>				
Business	1.8	-0.1	2.4	-1.2
Manufacturing	0.3	-0.2	4.1	0.3
(adj. cap. ut.)	0.4	0.7	2.5	0.3
(adj. hrs.)	0.4	1.3	5.2	3.6

Note: For each country line (3) adjusts for estimated changes in capacity utilization. Line (4) adjusts for hours of work.

Sources: As Table 2.7 plus Artus (1977) for capacity utilization.

deterioration in the trend of the output/capital ratio was that much worse.

Our conclusion is that there is some evidence of productivity problems in a number of the major countries prior to 1973. After 1973 the decline in productivity growth is not in contention. Table 2.9 shows a further deterioration over the period 1973-79 in the

Table 2.9. Productivity and output/capital ratios manufacturing 1965–1985 (% change per annum)

	Late 1960s	1973–9	1979–85
<i>US</i>			
Hourly/labour productivity	4.2	1.3	3.4
Output/capital ratio	1.3	-1.6	-0.7
<i>Japan</i>			
Hourly labour productivity	9.5	5.6	6.2
Output/capital ratio	-2.4	-0.8	2.8
<i>Germany</i>			
Hourly labour productivity	5.0	4.3	3.1
Output/capital ratio	-2.1	-0.4	-0.3
<i>France</i>			
Hourly labour productivity	6.1	4.9	3.5
Output/capital ratio	0.0	-1.1	-3.8
<i>UK</i>			
Hourly labour productivity	5.1	1.2	3.9
Output/capital ratio	-0.7	-3.1	-1.7
<i>Italy</i>			
Hourly labour productivity	8.6	3.3	3.3
Output/capital ratio	0.3	0.0	-1.0

Sources: Table 2.7 plus OECD *Economic Outlook*, Dec. 1985, Table 18; December 1987, Table 20.

growth rates of hourly manufacturing labour productivity, which was very marked except in Germany and France. The pattern for the output/capital ratio is more mixed with both Japan and Germany showing an improvement despite the slower growth of output. By 1973–9 the growth of labour productivity was unprecedentedly low by golden age standards in all countries other than the US and France. The trend of the output/capital ratio was unprecedentedly bad in France and the UK. Only the US escaped having one or other indicators exceptionally unfavourable. The precedents for the US pattern (late 1950s, late 1960s) does not make the 1.3 per cent growth of manufacturing productivity (and similar decline in output per unit of capital) any less feeble.

The Profit Squeeze

As summarized in Table 2.10 the share of profits in net value added had, by 1973, declined by about one-quarter in each of the three main blocs—US, Japan, and Europe, as compared to peak shares.

Table 2.10. Profitability, 1960–1973 (%)

	ACC ^a	US	Europe	Japan
PROFIT RATES				
<i>Business</i>				
Peak year ^b	16.2	19.8	16.5	32.0
1973	12.9	13.1	11.3	19.6
1973 ÷ peak year	0.80	0.66	0.68	0.61
<i>Manufacturing</i>				
Peak year ^b	24.1	35.5	20.7	46.8
1973	19.4	21.8	12.9	33.5
1973 ÷ peak year	0.80	0.61	0.62	0.72
PROFIT SHARES				
<i>Business</i>				
Peak year ^b	23.5	22.5	25.2	38.4
1973	20.0	16.7	18.9	30.4
1973 ÷ peak year	0.85	0.74	0.75	0.79
<i>Manufacturing</i>				
Peak year ^b	23.7	23.0	25.0	40.7
1973	20.4	17.4	17.9	32.9
1973 ÷ peak year	0.86	0.76	0.72	0.81
OUTPUT/CAPITAL RATIOS				
<i>Business</i>				
Peak year ^b	0.69	0.88	0.66	0.83
1973	0.64	0.78	0.60	0.64
1973 ÷ peak year	0.93	0.89	0.91	0.77
<i>Manufacturing</i>				
Peak year ^b	1.01	1.54	0.83	1.15
1973	0.95	1.26	0.72	1.02
1973 ÷ peak year	0.94	0.82	0.87	0.89

^a ACC refers to average of the largest seven OECD countries.

^b Year before sustained decline in profitability, which is ACC—1968; US—1966; Europe—1960; Japan—1970.

Source: Armstrong and Glyn (1986).

This decline, whilst of remarkably common extent once the four major European countries are averaged, varied in intensity, being extended over three cycles in Europe, two in the US, and one in Japan.

Some indication of the factors underlying the profit squeeze can be gleaned from the analysis of manufacturing profitability shown in Tables 2.11 and 2.12. These tables present decompositions of the trend in the profit rate in manufacturing for the average of the

Table 2.11. ACC's Manufacturing (unweighted) profit shares and rates
(% change per annum)

	Late 1950s	Early 1960s	Late 1960s	Early 1970s	1973-5	1975-9
(1) Hourly productivity		6.2	6.4	6.4	2.3	4.5
(2) Effect of input costs		0.4	0.4	-0.2	-3.3	-0.2
(3) Real factor incomes = (1)+(2)		6.6	6.8	6.2	-1.0	4.3
(4) Product wages		7.0	7.1	7.3	4.2	3.4
(5) Wage share = (4)-(3)		0.4	0.3	1.1	5.2	-0.8
(6) Profit share		-1.1	-1.0	-3.9	-24.4	6.0
(7) Real output/capital ratio		0.2	0.6	-0.6	-7.2	1.9
(8) Effect of capital costs		0.0	0.1	-1.6	-1.2	-0.9
(9) Current price O/K = (7)+(8)		0.2	0.7	-2.2	-8.3	1.0
(10) Profit rate = (6)+(9)		-1.0	-0.4	-6.1	-30.5	7.5

Memorandum items

(a) Weekly hours worked		-0.7	-0.6	-1.2	-2.6	0.4
(b) Relative consumer price		2.4	1.3	0.3	-1.1	1.0
(c) Real weekly wages = (4)+(a)-(b)		3.9	5.2	5.8	2.6	2.8
(d) Real direct costs		4.1	3.9	4.5	3.8	2.4
(e) Relative prices of capital goods		0.8	0.8	0.9	0.4	0.2
(f) Output prices		1.4	2.5	6.2	15.5	8.4
<i>End of period levels</i>						
(g) Profit share (%)	25.8	24.2	23.1	20.1	11.5	14.5
(h) Profit rate (%)	23.4	22.2	21.8	17.6	8.5	11.2

Notes: ACCs are the biggest six OECD countries, unweighted averages, and averaged over cycles covering periods shown in Table 2.7.

- (1) Real value added per hour worked.
- (2) Effect of relative price of inputs (materials etc.) and of weight of capital consumption in reducing the growth rate of wages and profit measured in terms of manufacturing output (see Appendix).
- (4) Employee compensation per hour deflated by gross output prices.
- (5) Employee compensation adjusted for self-employment as % of net value added.
- (6),(g) Net operating surplus (adjusted for self-employment) as % of NVA.
- (7) Real value added divided by real gross fixed capital stock.
- (8) Effect of relative prices of capital stock and output and other factors (see Appendix).
- (9) Net value added divided by net capital stock (current prices).
- (10),(h) Net operating surplus divided by net capital stock.
- (b) Relative price of consumer goods and manufacturing output.
- (d) Weighted average (60%, 40%) of product wages and real input prices—the latter calculated from output prices and value added prices assuming output is $\frac{2}{3}$ value added, $\frac{1}{3}$ inputs.
- (e) Relative prices of capital stock and manufacturing output.
- (f) Manufacturing output prices (wholesale prices)

The addition of the growth rates of the profit-share (line 6) and the output/capital ratio (line 9) to reach the growth rate of the profit-rate (line 10) is very approximate when the growth rates are large.

Sources: Armstrong and Glyn (1986) and national sources.

Table 2.12. ACC's Manufacturing (weighted) profit shares and rates (% change per annum)

	Late 1950s	Early 1960s	Late 1960s	Early 1970s	1973-5	1975-9
(1) Hourly productivity	5.4	4.7	5.6	1.6	3.7	3.7
(2) Effect of input costs	0.3	0.3	-1.3	-3.4	-0.3	-0.3
(3) Real factor incomes = (1)+(2)	5.7	5.1	4.3	-1.7	3.4	3.4
(4) Product wages	5.5	5.7	5.2	2.0	3.0	3.0
(5) Wage share = (4)-(3)	-0.2	0.6	0.9	3.7	-0.4	-0.4
(6) Profit share	0.7	-2.1	-3.4	-16.4	2.1	2.1
(7) Real output/capital ratio	1.7	-0.4	0.0	-8.1	2.1	2.1
(8) Effect of capital costs	0.3	-1.0	-2.1	-0.1	-1.5	-1.5
(9) Current price O/K = (7)+(8)	2.0	-1.4	-2.1	-8.2	0.6	0.6
(10) Profit rate = (6)+(9)	2.6	-3.4	-5.3	-23.6	2.6	2.6
(a) Weekly hours worked	-0.2	-0.6	-0.7	-2.1	0.4	0.4
(b) Relative consumer price	1.9	1.6	0.4	-1.6	0.9	0.9
(c) Real weekly wages = (4)+(a)-(b)	3.6	3.5	4.1	1.5	2.6	2.6
(d) Real direct costs	3.3	3.2	4.1	2.7	2.0	2.0
(e) Relative prices of capital goods	1.0	1.4	0.7	-0.1	0.1	0.1
(f) Output prices	1.1	2.4	5.4	14.2	7.4	7.4
<i>End of period levels</i>						
(g) Profit share (%)	23.7	24.7	22.5	19.9	15.1	15.1
(h) Profit rate (%)	24.7	28.8	24.7	20.4	11.9	13.2

Notes: ACCs are the biggest six OECD countries, weighted (by 1965 GDPs), and averaged over cycles covering the periods shown in Table 2.7. See notes to Table 2.11.

Sources: Armstrong and Glyn (1986) and national sources.

biggest six countries (unweighted in Table 2.11, weighted in Table 2.12). Line (3) shows the real growth rate of wage and profit income combined which is permitted by the growth of hourly productivity after allowing for changes in the real cost of non-labour inputs. The wage share in value added rises or falls (line (5)), depending on whether the growth of product wages (wages deflated by the price of manufacturing output, line (4)) rises faster or slower than the growth of total factor incomes. Line (6) translates this growth rate of the wage share into a growth rate for the profit share (opposite in sign and greater in magnitude in proportion to the ratio of wages to profits). Also relevant to the interpretation are the memorandum items (a)-(c) which show the impact of changes in hours of work and of the price of consumer goods (relative to manufactured goods) on the growth rate of workers' real wages.¹⁷

Already in the early 1960s the share of wages in value added was rising by 0.4 per cent p.a. as hourly product wages rose faster than what was available for distribution as real factor incomes (wages plus profits). The falling real cost of inputs of materials (and depreciation) halved the impact on the wage share of the excess of product wages growth over productivity growth.

The more severe profit squeeze of the early 1970s reflected a reversal of the favourable input cost trend (reducing the growth rate of real factor incomes by 0.6 per cent p.a.) whilst product wages growth increased a little. Whilst hours of work were declining faster in the early 1970s, consumer prices grew hardly faster than manufacturing prices. This was in contrast to much faster relative growth of consumer prices in the early 1960s and allowed real weekly wages (in terms of what workers could buy) to rise by 1.5 per cent faster in the period.¹⁸

These unweighted results show the 'typical' position amongst the major countries. Developments in the USA dominate the differences between them and the weighted estimates (Table 2.12). The weighted pattern is for profit squeeze to develop in the late 1960s due to a slow-down in productivity, and to intensify in the early 1970s due to the sharp increase in real input costs despite the recovery in productivity and a slight slow-down in product wage growth.

Any such 'accounting' for the profit squeeze does not establish causation. For example, a slowing down of productivity growth, or adverse trend in real materials costs, only leads to profit squeeze if product wages do not absorb the deterioration. Maintenance of real

mark-ups would automatically offload on to workers a share of this reduction in the growth of real factor incomes and allow the profit share (of a more slowly growing total) to be maintained. That this did not happen suggests a combination of pressures on profit margins—first, workers' bargaining position had been somehow strengthened which allowed them to maintain, and actually increase, the growth rate of the real wages they bargained for, despite the adverse movements in input costs and on occasions productivity; second, some forces inhibited a full passing on of these cost pressures in the form of higher prices. Prices did accelerate—in the early 1970s manufacturing prices were rising at around 5 per cent p.a. as compared to 1 per cent p.a. in the early 1960s—but not sufficiently to prevent the continuing and intensifying profit squeeze.

So in addition to the underlying factors of productivity and input costs the situation in both labour and product markets has to be considered. The tight labour markets established in the early 1960s in Europe, mid 1960s in the US, and early 1970s in Japan, undoubtedly strengthened labour's bargaining position as reserves of unemployed and underemployed labour were eroded.¹⁹ The extent to which a regular growth of real wages had become etched into workers' expectations was most dramatically manifested in the wage explosions of the late 1960s. The behavioural and institutional background to these changes is discussed in Section IV.3 below.

The failure of product wages to slow in line with real factor incomes had a positive effect on productivity. It forced the earlier scrapping of the less productive vintages of equipment. But such a pattern also reflected pressures preventing prices accelerating in line with money wages. A Keynesian explanation of such a peak-to-peak profit squeeze, in terms of lack of aggregate demand, could hardly be convincing since demand was very high at the cyclical peaks in the late 1960s and early 1970s. The lags in the application of mark-up rules could of themselves lead to reduced real profits as cost increases accelerated. No doubt an important role in inhibiting faster adjustment of mark-ups was played by competition from new vintages of equipment, and especially international competition as tariff barriers fell and international trade between the advanced countries expanded rapidly (see Section IV.3 below).²⁰

Our eclectic summary of influences on the profit squeeze prior to 1973 would emphasize productivity slow-down, rising real input costs, tighter labour markets which had led to a secular increase in workers' bargaining position, and intensified competition, especially

across national boundaries, as contributory factors. Attempting to attribute relative importance to these would be a very tricky counterfactual exercise. It is one we can side-step by noting that the dominant forces in this process were clearly not of a temporary character.

In the years up to 1979 the profit squeeze continued at a rather similar rate to that of the early 1970s (Tables 2.11 and 2.12). Productivity growth slowed markedly and there was a much faster rise in the real cost of inputs (both materials and depreciation) than in the early 1970s. So despite a halving of the growth rate of product wages they were still increasing by more than 1 per cent faster than real factor incomes. The squeeze on profits was at its most intensive over the recession years of 1974 and 1975—the profit share in manufacturing halving in Japan and nearly halving in Europe (the falls in business were much less dramatic—Armstrong and Glyn (1986)). The growth of productivity was slowest, and the rise in materials costs steepest, in those two years of recession induced by the oil crisis. But the recovery after 1975 neither returned the growth of productivity to its pre-1973 rate nor wholly relaxed the continuing pressure from materials costs. So although product wages continued to grow much more moderately than prior to 1973 the recovery in the profit share only made up for part of the ground lost during 1973–5. By 1979 the profit share was typically around two-thirds of its peak level (half for Japanese manufacturing, see Table 2.13).

The Profit rate and Investment

As shown earlier the movement of the profit rate can be decomposed into movements in the profit share and in the output/capital ratio. Whilst the fall in the profit share dominates the pre-1974 pattern (Table 2.10), declines in the output/capital ratio of the order of one-tenth contributed to the fall in the profit rate in each of the major blocs.²¹

By 1973 the profit rate had declined by about one-third in North America, Western Europe, and Japan, in both manufacturing and business. The output/capital ratio declined sharply in 1974–5, reflecting mainly excess capacity. Although there was some recovery by 1979, the ratio was still below the 1973 level and so contributed, along with the fall in the profit share after 1973, to the further decline in the rate. By 1979 the profit rate in both business and manufacturing was around half or less of the peak rate in each of the major blocs (Table 2.13).

Such a substantial fall in the profit rate, even before 1974, estab-

Table 2.13. Profitability, 1973–1979 (%)

	ACC ^a	US	Europe	Japan
PROFIT RATES				
<i>Business</i>				
1973	12.9	13.1	11.3	19.6
1979	10.6	10.7	9.4	14.7
1979 ÷ peak year ^b	0.63	0.54	0.57	0.46
<i>Manufacturing</i>				
1973	19.2	21.8	12.9	33.5
1979	12.7	15.5	9.6	14.2
1979 ÷ peak year ^b	0.53	0.44	0.46	0.36
PROFIT SHARES				
<i>Business</i>				
1973	20.0	16.7	18.9	30.4
1979	18.4	15.7	16.7	26.6
1979 ÷ peak year ^b	0.78	0.7	0.67	0.66
<i>Manufacturing</i>				
1973	20.4	17.4	17.9	32.9
1979	15.6	15.1	13.3	19.2
1979 ÷ peak year ^b	0.66	0.66	0.53	0.47
OUTPUT/CAPITAL RATIOS				
<i>Business</i>				
1973	0.64	0.78	0.59	0.64
1979	0.57	0.68	0.56	0.55
1979 ÷ peak year ^b	0.83	0.77	0.85	0.66
<i>Manufacturing</i>				
1973	0.95	1.26	0.71	1.02
1979	0.81	1.03	0.72	0.74
1979 ÷ peak year ^b	0.80	0.67	0.87	0.64

^a ACC refers to average of the biggest seven OECD countries.

^b Year before sustained decline in profitability, which is ACC—1968; US—1966; Europe—1960; Japan—1970.

Source: Armstrong and Glyn (1986).

lishes rather clearly that the golden age pattern was being eroded. But just what were the implications of this fall in profitability, in particular for the rate of accumulation which was the motor of the whole process?

Contrary to earlier work (see, for example, Helliwell 1976) recent econometric analysis has supported the importance of profitability in explaining investment trends (see Lindbeck 1983; Weisskopf 1985; Bruno 1986). Following this approach we explored the relationship between the growth rate of the capital stock and profitability using

Table 2.14. Accumulation and profit share regressions, 1952–82 (dependent variable—growth rate of gross stock of fixed capital (K))

	Const	K(-1)	PS(-1)	R ²	Durbin's <i>t</i> -stat	Chow's F-stat
<i>Japan</i>						
Business	-3.54 (2.0)	0.67 (6.6)	0.2 (2.9)	0.84	0.5	1.2
Manufacturing	-2.28 (1.2)	0.36 (1.7)	0.29 (2.6)	0.73	1.3	0.6
<i>Germany</i>						
Business	-1.65 (3.3)	0.54 (5.6)	0.17 (5.0)	0.92	1.6	2.1
Manufacturing	-2.74 (5.2)	0.57 (6.6)	0.22 (5.7)	0.96	3.3	2.6
<i>US</i>						
Business	-0.41 (0.5)	0.71 (5.5)	0.08 (2.1)	0.53	1.0	2.2
Manufacturing	-1.31 (1.4)	0.72 (6.0)	0.12 (2.6)	0.58	1.7	11.8
<i>France</i>						
Business	-0.19 (0.3)	0.88 (14.1)	0.04 (1.4)	0.87	2.9	12.7
Manufacturing	-0.08 (0.2)	0.9 (12.1)	0.03 (1.4)	0.83	0.5	6.1
<i>UK</i>						
Business	0.09 (0.2)	0.81 (8.4)	0.03 (1.8)	0.72	0.4	0.2
Manufacturing	0.87 (1.8)	0.27 (1.5)	0.07 (3.2)	0.46	0.4	0.5
<i>Italy</i>						
Business	-0.5 (1.1)	0.71 (7.5)	0.11 (3.7)	0.85	1.2	4.6
Manufacturing	-1.17 (1.3)	0.84 (8.3)	0.12 (2.1)	0.75	1.4	6.0

Notes: *t* values in brackets (5% confidence interval $t = 1.7$, 1% $t = 2.5$) K(-1) is lagged growth rate of the capital stock. PS(-1) is the lagged net profit share. Durbin's *t*: autocorrelation (with lagged dependent variable). Chow's F: structural break at 1973 (2.7, 5% confidence).

data on business and manufacturing for the ACCs (see Armstrong and Glyn 1986). We report the results in Table 2.14 using the lagged profit share as our profitability indicator (see Chapter 4). With lagged capital stock growth also included the profit share is significant everywhere except France (where it is not far from significant). Whilst we have not carried out fully specified tests of alternative

Table 2.15. Pooled regressions, 1952–82 (dependent variable—growth rate of gross stock of fixed capital (K))

	Const.	PR(-1)	R ²
Business			
1952–82	0.71 (2.6)	0.33 (17.7)	0.60
1952–73	0.13 (0.3)	0.36 (14.1)	0.59
Manufacturing			
1952–82	0.7 (2.0)	0.24 (14.2)	0.49
1952–73	0.73 (1.3)	0.24 (10.1)	0.42

Notes: *t* values in brackets (5% confidence interval $t = 1.7$, 1% $t = 2.3$). PR(-1) is the lagged net profit rate. Countries covered: as Table 2.14 plus Canada.

hypotheses it is noteworthy that experiments with other specifications including the addition of lagged output growth left profitability significant more often than not, and more often than lagged output. These experiments (not reported here) suggest that profitability is not just proxying for accelerator terms.²²

Table 2.15 presents some pooled regressions for the seven countries, using the profit rate rather than the profit share. For the period up to 1973 the lagged profit rate explains 42 per cent of the variance (across countries and time) of the manufacturing accumulation rate and 59 per cent of the variance of the business accumulation rate. Applying the estimated coefficients to the fall in profit rates would imply a fall in the rate of accumulation in business of about 1.5 per cent in Europe, 2 per cent in the US, and 4 per cent in Japan between the years after peak profit rates (1960, 1966, and 1970 respectively) and 1974. The actual outcomes were very close to the predictions for Europe and Japan (1.25 per cent and 4 per cent respectively), but with very little fall in the US. The patterns for manufacturing are similar, except that there was a larger actual decline in the accumulation rate in Europe and a small decline in the US.²³

In the absence of a more fully articulated explanation of the determinants of profitability and accumulation, and the links between the two, these results are suggestive. They indicate that by 1974 the pressures which had driven profit rates down had made a definite dent in the accumulation rate, especially in Japan and Europe. Of

course causality need not run from a decline in profits to a decline in investment. It is quite possible, as Chapter 4 argues, that it was the decline in the output/capital ratio which drove the rate of growth of the capital stock downward. Had profit margins been maintained the increase in investment per unit of profit might have offset the decrease in the output/capital ratio. In the event, the failure of profitability to recover in Europe and Japan in the years up to 1979 was reflected in a further slippage in the accumulation rate. By 1980 the growth rate of the capital stock in European business was 3.8 per cent, as compared to peak rates of 5.8 per cent in the early 1960s; in Japan the fall was to 6.7 per cent, just under half the peak reached in 1970. In manufacturing accumulation rates were about one-third of peak rates in Europe and Japan. Only in the US was the decline in profitability without a strong impact on investment; accumulation maintained its rather limping path.

Internationalization

We have characterized the golden age structure of growth as being primarily focused on the internal market. International trade grew rapidly, but from a very low starting-point. Although the volume of exports grew more rapidly than GDP or manufacturing production the faster productivity growth of exporting sectors prevented the share of exports in the value of production rising. The end of the 1960s saw an important change. Between 1965 and 1973 the increase in the volume of exports was so strong in both Europe and the US (rising by more than one-third as a ratio to GDP) that the current price ratio increased as well (see Table 2.2a). It was only Japan, where output growth as a whole was so enormous over this period, that the ratio rose in neither current or constant price terms. Japan was also unique in having a share of imported manufactures in manufacturing supply far below its pre-World War I level (5 per cent in 1971 as against 34 per cent in 1913) whereas the UK and Germany regained historical levels of import penetration rates and the US was for the first time importing substantial volumes of manufactures.

This growing internationalization was paralleled by capital flows—direct, portfolio, and banking. As already noted it played a role in cementing the pressure on wages from tight labour markets and militant unions into a decisive squeeze on profits. The most important sense in which this contributed to the erosion of the golden age, however, was that it weakened the ability of individual countries to

regulate their macroeconomies through demand and exchange rate management.

Inflation

The modest inflation rates of the golden age reflected the pattern of wage-bargaining, price-setting, credit creation, and international relations as described earlier. The real pressures on the golden age macroeconomic structure which we have identified—tendency to declining productivity growth, increasing cost of imported inputs—put pressure on inflation rates as well, as did the erosion of the reserves of labour and the consolidation of trade union organization. Increasing real costs of production coincided with increased capacity for organized labour to press its claims. Whilst increased international competition acted as a constraint on price increases the incapacity of the international monetary system to absorb the strains resulting from this increased competition led to the breakdown of fixed exchange rates, and the limitation that imposed on inflation rates. The combination of these pressures, and in particular the oil price increase of 1973, had pushed the inflation rate up from 3 per cent in 1965 to over 15 per cent by 1974. Slower growth thereafter only provided some remission, with the inflation rate stuck at around 8 per cent throughout the rest of the 1970s.

IV.2 The System of Production

The writing was already on the wall for the Fordist system of production in the 1970s. As three Harvard Business School Professors commented of the US automobile industry: 'Having in the most deliberate manner possible committed themselves to standardization, managers usually believed they had no alternative to sticking with it to the bitter end. As events have shown the end has been bitter indeed' (Abernathy *et al.* 1983, p. 18).

By the early 1980s it was 'officially' pronounced outmoded in an authoritative article in the *Harvard Business Review*:

At the heart of this traditional model is the wish to establish order, exercise control and achieve efficiency in the application of the workforce... the model's real father is F. W. Taylor... Recently, however, changing expectations among workers have prompted a growing disillusionment with the apparatus of control. At the same time of course, an intensified challenge from abroad has made the competitive obsolescence of this strategy clear...

Especially in a high wage country like the United States, market success depends on a superior level of performance, a level that, in return requires the deep commitment, not merely the obedience—if you could obtain it—of workers. And as painful experience shows, this commitment cannot flourish in a workplace dominated by the familiar model of control (Walton 1985, pp. 77–8).

The search for a way out of productivity problems seems to express a fundamental weakness in the golden age system of production. On the one hand the mass of unskilled workers are systematically and *in principle* excluded from the search for new technologies. The design of these, and the work patterns required to implement them, is carried out exclusively by specialist departments (research and development, industrial relations, and so forth). And yet the effective functioning of the new machinery does require workers' involvement in the process of production. This is in order to guarantee the smooth running of the process in the face of hiccups in the supply of components, mechanical malfunctioning, or breakdowns.²⁴

That such *informal involvement* (Linhart and Linhart 1985) is assumed by management is demonstrated most clearly by the fact that the 'work-to-rule' is a weapon in the hands of workers rather than representing their ultimate compliance with Taylorist norms. Workers' experience and ingenuity was systematically disregarded in the design of new technologies but implicitly relied on in their implementation. Drawing on workers' experience could become increasingly necessary if the possibilities of generalizing existing techniques of production began to slacken and/or if returns from specialized research and development activity began to weaken. Equally, implementation of new technologies might become problematic if increasingly sophisticated processes and products began to rely more on the informal involvement of workers, thus cutting against the grain of formal organization of work and incentive structures. Similar tensions could arise if improved security and bargaining position on the shop-floor reduced the pressure on workers to display such an unrecognized commitment to what they were doing. Some combination of these pressures seems the most plausible way of understanding the factors underlying the slow-down in productivity growth and the search for a new system of production which emerged in the 1970s.

What further light can be shed on this through examination of productivity patterns in more detail? Mainstream accounting for the

Table 2.16. Cars and mining labour productivity* (annual average percentage increases)

	1950s	Early 1960s	Late 1960s	Early 1970s
<i>Transport equipment</i>				
US (hrly)	3.7	4.4	0.9	3.8
Japan	12.4	14.0	10.3	2.3
Germany (hrly)	—	6.1	5.3	3.9
UK (hrly)	6.1	2.9	2.6	0.5
Italy	10.0	7.5	4.0	-0.2
France	—	6.7	4.5	5.5
<i>Mining</i>				
US (hrly)	3.5	4.8	3.2	-1.0
Japan	8.8	15.2	6.8	3.3
Germany	4.3	6.3	6.3	3.9
UK	0.4	3.7	4.6	1.6
Italy	9.7	2.3	8.4	2.4

* Output per working or per hour worked (hrly).

Sources: as Table 2.7.

slow-down of productivity growth after 1973 centres on the slower increase in the capital/labour ratio, resource allocation effects, and the observed positive relationship between manufacturing output growth and productivity growth—the Verdoorn effect. According to Maddison's survey (1984), quite substantial unexplained residual slow-downs remain, though these would be much smaller if more weight were placed on capital accumulation.²⁵ However, the much slower overall growth makes it especially difficult to disentangle the source of productivity problems after 1973. Thus the period prior to 1973 is particularly interesting. We assembled as comprehensive as possible a disaggregated industrial data-set on productivity to examine pre-1973 trends.

The automobile industry is generally seen as epitomizing the golden age system of production. The US industry did suffer a disastrous period during 1966–9, with labour productivity growth declining to 1 per cent p.a., and the output/capital ratio falling. However, in common with the rest of manufacturing, the 1969–73 cycle saw a rebound in both variables, with productivity growing at nearly 4 per cent p.a. Table 2.16 also shows very sharp declines in labour productivity growth in the transport equipment sectors in all the other major countries except France (the Japanese case may be affected by the inclusion of shipbuilding). In Italy and Japan there

Table 2.17. Comparative productivity levels in 1967 (Output per worker; US level = 100)

	France	Germany	UK	Japan
Construction materials	45	50	30	50
Metal manufacture	45	60	40	55
Textiles	45	60	40	55
Wood/Paper	40	55	40	35
Mechanical engineering	45	55	25	45
Electrical engineering	40	40	35	45
Transport equipment	25	35	20	30
Chemicals	65	55	45	35
Food	50	45	50	35
Total Manufacturing	45	50	35	45

Note: Figures are heavily rounded to emphasize the necessarily very approximate nature of calculations.

Source: Calculated from Guinchard (1984), Tables 1 and 2.

were sharp deteriorations in the output/capital ratio trend in the early 1970s, and this was also true in France. The *level* of labour productivity in transport equipment varied from around one-fifth the US level in the UK (Table 2.17) to one-third in Germany; this strongly suggests that the difficulties in maintaining the momentum of productivity *growth* must stem more from social rather than technical limits.

The pattern in other industries (not shown in the table for reasons of space) varies. Non-electrical machinery sometimes shares the slow-downs detected in transport equipment (Japan, Italy, and France) but not elsewhere. The 'heavy' sectors—chemicals and metal manufacture—showed exceptionally poor productivity growth only in Germany (a world leader in chemicals and the most important European steel producer). Textile productivity growth was exceptionally poor only in the US. Indeed it is striking that in the US, which has the highest level of productivity in all these sectors (Table 2.17), and thus is presumably more susceptible to any impending exhaustion of existing technologies, several important industries show productivity growth as fast (chemicals, non-electrical machinery) or faster (clothing, paper, wood) in the early 1970s as over any previous cycle.

Construction productivity declines in the US, and does poorly in Japan and the UK, but not elsewhere. Mining—a barometer indus-

try for industrial relations—shows productivity slowing typically to half its previous rate (Table 2.16); by contrast agriculture and energy show peak productivity growth rates.

Hours of work typically fell around 0.5 per cent p.a. faster in the early 1970s than in the late 1960s; in some countries (France and Italy) this was an unprecedented reduction by post-war standards, whilst in Japan and Germany it was rather a reversion to previous trends (OECD 1985e). This might suggest a stronger position for workers on the shop-floor which could extend to work practices as well; there seems outside Japan, however, to have been a trend towards increasing shift work typically covering an additional 0.25–0.5 per cent of manufacturing employment each year (Prais 1981; Barou 1979; Cette and Jolly 1984).

This brief survey of our disaggregated productivity data falls short of a definitive conclusion. In the great majority of cases either labour productivity or output per unit of capital decelerate in the early 1970s (or late 1960s) whilst the trend in the other variable is at best maintained. The more adverse cases include Japanese business, French manufacturing, and a large number of transport equipment and machinery sectors.

As far as the US is concerned, the deterioration in productivity performance generally pushed growth rates back down to the level of the 1950s. In the main industries typical of the golden age model productivity rebounded in the early 1970s (the problem industries were mining and construction). There was still a very wide productivity gap in the mid 1960s between other countries and the US (at least according to some of the available estimates—see note to Table 2.17). This makes it hard to credit 'catch-up' with the US (or limits to the further generalization of existing technologies) as the main explanation for slow-downs outside the US. On the other hand the fact that the trends in the early 1970s were generally less unfavourable in Italy, France, and the UK, where class conflict was of exceptional severity from the mid 1960s, suggests that traditional systems of production could be effectively strengthened and tightened under some circumstances. Whilst the widespread nature of productivity problems is confirmed, the lack of a clear pattern leads us back to the rejection by employers of the golden age system of organizing work as the strongest confirmation that these problems reflected fundamental difficulties in obtaining the necessary degree of labour commitment.

IV.3 The Rules of Co-ordination in the Period of Erosion

That costs and prices rose steadily during the golden age reflected the interaction of the system of wage settlements with mark-up pricing behaviour. The persistence of inflation had some important feedbacks on government policy which affected the nature of this interaction. Moreover, the tendency of the system to produce a drift of income share away from profits towards wages led management to take bargaining initiatives.

Pressures on the Growth of Real Wages

Where governments were committed to maintaining a fixed international parity, inflation much out of line with international trends implied a weakening balance of payments. Attempts to control inflation in these circumstances took the form of deflation and/or controls over wages and prices.²⁶ Both of these developments threatened the steady expansion of real wages. Increasing government involvement also led to some shift in those countries with decentralized systems of collective bargaining towards a more centralized approach. This pressure on grass-roots autonomy was reinforced by developments in management strategies. The growth of divisionalized management structures and the associated imposition of company-wide bargaining procedures in diversified conglomerate firms threatened the independence of plant- and enterprise-level bargaining.²⁷ At the same time there was, as we have seen, a general tendency for the intensification of job evaluation and measurement systems. The incorporation of work norms into the machines themselves further challenged plant-level control of the labour process. There was a growing perception of the costs in terms of autonomy and control of Taylorist scientific management and productivity bargaining (McKersie and Hunter 1973; OECD 1979).

In the tightening European labour market of the late 1960s the response to interrupted real wage growth, and the erosion of locally based negotiating procedures and work practices was a wave of predominantly unofficial, plant-led strikes, and an acceleration of money wage growth. A similar but more drawn-out process of growing labour unrest occurred in the United States. Only Japan with less severe labour-market pressures escaped relatively unscathed (Crouch and Pizzorno 1978; Sabel 1982).

In the 1970s in the aftermath of these developments, and in the

light of the steady rise in inflation, the explicit indexation of money wages to cost-of-living changes became much more widespread. There was also a tendency everywhere for collective bargaining to include industry- or company-specific schemes covering such issues as job protection, pension provision, and working hours.

The growth of indexation, in conjunction with historical cost mark-up pricing, meant that the potential for profit squeeze was significantly increased. The impact was particularly noticeable in the early 1970s as major raw material and primary commodity price changes fed into the system. These reflected high pressure of demand, natural crop failures, and diminished US raw material and agricultural stockpiles (which were deliberately run down in the 1960s) as well as the erosion of the colonial and semi-colonial status of oil and other primary commodity producers (Maddison 1982).

In the 1970s, then, the increasing pace of input cost and money wage pressures combined with mark-up pricing contributed to a squeeze on profits as firms failed to anticipate inflation correctly and were unable to recoup lost ground (Flemming *et al.* 1976; Martin 1981; Lipietz 1983). This compounded the problems arising from competitive pressures which were being maintained or intensified in the 1970s.

The Pressure of Competition

In this period slower economic growth was associated with a reversal of the upward shift in the concentration of domestic production which had characterized the golden age. The major wave of mergers which marked the turn of the decade served to maintain rather than further increase aggregate concentration levels, at least in the UK and US. In both of these economies, as well as in Japan and Germany, concentration in aggregate was stable or fell over the 1970s (OECD 1984b). Further, a study of over 200 European product markets in the period 1970–9 showed that there was a tendency for single-firm dominance to weaken and be replaced by more oligopolistic structures. Part of this was undoubtedly the result of international integration (EEC 1982).

Between 1969 and 1978 the ratio of manufactured imports to GNP continued to rise in each of the major industrial economies.²⁸ The rate of growth of direct investment, although slackening from the early 1970s, also held up much better than domestic capital formation, and was increasingly multidirectional, both into and out of the US and the major European economies as well as outward from

Japan (OECD 1981). It is not surprising therefore that competitive pressures limited attempts by firms to recoup margins by raising prices more frequently or by greater amounts than cost changes could justify. Prices rose but by not enough to match costs. So inflation was combined with a profit squeeze.

Income Maintenance and the Welfare State

Meanwhile, state provision for income maintenance and employment protection was steadily advancing. As Table 2.18 shows the share of household transfers in OECD current price GDP, which averaged 7.5 per cent in the period 1955–7, and 10.5 per cent in the period 1967–9, rose to 13.9 per cent by 1974–6.

In Europe in particular these financial developments were associated with extended arrangements guaranteeing higher levels of job protection, safeguards against unfair dismissal, and provision for greater degrees of consultation prior to, and compensation after, redundancy (OECD 1979). This, along with the company-based non-wage elements in collective bargaining discussed earlier, led to the emergence of an increasingly dual labour market. Employers sought to maintain a flexible margin of workers whose length and terms of employment left them unable to qualify for state and company benefits open to those in more permanent jobs (Doeringer and Piore 1971). Whilst the income-maintenance expenditures helped maintain demand, the emergence of a fringe of workers outside the central safety-net threatened the comprehensiveness of the system which had been a hallmark of the golden age. Moreover, as the problem of unemployment worsened, the long-term unemployed posed problems for systems designed for relatively short periods of interrupted employment.²⁹

Nevertheless the overall impact of public expenditure patterns was supportive of demand maintenance. As Fig. 2.5 shows, the steady progress of public expenditure as a percentage of GDP was accelerated in the mid 1970s. With tax revenues lagging there were big increases in government deficits.

In this sense the fiscal and public expenditure patterns of the period of erosion were similar to the period of the golden age itself. Thus the main feature of the period of explicit erosion of the golden age (roughly speaking, the inter-oil-shock period 1974–9) is the *stability* of the rules of co-ordination. President Nixon was right in stating in 1971 'we are all Keynesians now'.

There was an explicit attempt to manage effective demand so as to

Table 2.18. Unweighted average shares of public expenditure in GDP in current prices by economic category in the OECD economies 1955-76 (%)

	Total public expenditure	Final consumption	of which to		Transfers and subsidies		of which to		Interest on public debt	Investment
			Defence	Households	Households	Producers				
1955-7	28.5	13.0	4.0	7.5	8.8	1.3	1.7	4.0		
1967-9	34.5	15.3	3.4	10.5	12.2	1.6	1.8	4.7		
1974-6	41.4	18.0	2.7	13.9	16.1	2.1	2.3	4.5		

Source: OECD (1978).

maintain growth and moderate inflation. This was both the result of the mainstream confidence in Keynesian anti-crisis devices, and of the pressure of the political left and trade unions.

Real wages increase slowed down in the 1970s and became more and more disconnected from gains in productivity. But there was generally no question that real wages should decrease. The indexation of wages to prices was explicitly or implicitly strengthened and dominated the movement of nominal incomes.

Keynesian policies of recovery, through deficit financing, became the general rule. The expansion of credit through the national banking systems was permitted by an easy-money policy by central banks. The real dollar rate of interest was close to zero in the inter-shock period, so that the international central banker too was playing its part.

Summary

This 'Keynesian' period in the crisis after 1973 had many positive aspects. The greater importance granted to the 'security-net' of the welfare state helped to prevent a spiral of depression in the mid 1970s. Credit creation and bank financing smoothed the difficulties of firms in the face of decreasing profitability, and of the worsening world trade and payments position.

All of this could not conceal underlying problems. Increased welfare state provision meant increased taxes and contributions. And if the real post-tax income of the active population was not to decrease, then the profit share had to bear the burden. Resistance by workers or employers to these forces exacerbated inflation. This problem was heightened by worsening productivity performance. Finally the rising indebtedness of nations, public sectors, and corporations gave rise to concerns about the quality of the debt held by creditors.

Thus the institutional and behavioural framework was fraying at the edges. These problems of inflation, the funding of rising public sector deficits and expenditures, and persistent unemployment were superimposed upon underlying problems in the organization of the system of production, and in the macroeconomic structures. The policies applied were not sufficient to reverse the increase in unemployment after the first oil shock; even so the growth of real wages did not sufficiently lag behind productivity growth to allow a recovery of profitability. Neither in terms of restored confidence in high and stable demand growth, nor in terms of restored profitability,

were the conditions recreated in Europe and Japan for renewed accumulation at the rates achieved in the golden age. The second oil shock thus hit the system at a critical period and led to the final unhinging of the co-ordinating rules upon which the golden age had been based.

IV.4 The Collapse of Bretton Woods: And the Unravelling of the Post-War International Order

From Dollar Shortage to Dollar Glut: The Evolution of International Competitiveness among Industrial Countries

The dollar shortage of the early 1950s became a dollar glut in the following decade. By then, the European countries had started to shift the composition of their reserves towards gold. With the persistent US payments deficit, this became a serious systemic problem as gold outflows replaced official liability financing. The 'gold pool' was created, appeals were made to European countries not to change their official dollars into gold (and accepted by most countries except France), and other measures were taken. Nevertheless whereas US official liabilities in 1959 were only half the size of her gold reserves by 1967, they were one and half times larger than them.

Moreover, between 1960 and 1965 there was an enormous outflow of long-term capital from the US (mainly to Europe) and this more than offset improvements in the current account balance occurring in that period. Low-interest policies designed to combat recession at home encouraged large short-term capital outflows from the US into newly convertible overseas currencies. Expenditures on the government account (military expenditure and foreign aid) also contributed to the payments deficit. Finally, there was a sharp decline in the US trade balance by the late 1960s. From an average annual surplus of \$5bn. during 1961-5 the US trade account deteriorated to a bare balance by 1968-9.

In view of the USA's strategic and military posture in the world as well as its commitment to currency convertibility and free capital markets, the sharp deterioration in the trade balance provided evidence of a 'fundamental disequilibrium' in the US economy. The principal symptoms of this were major declines in consumer goods and automobiles trade balances (not compensated for by a capital goods surplus benefiting from tied military aid). The US lead in high

technology goods was also shrinking. The time it took other countries to duplicate an American innovation became shorter with each passing year (Block 1977).

More fundamentally, the main reason for the weakening trade position of the US (and for that matter the UK over a similar period) was the uneven development of the world economy which inevitably meant an underlying adjustment problem in a fixed parity system. Uneven development was reflected in the different rates of growth of manufacturing production, productivity, and competitiveness of the leading OECD countries. The relative rate of growth of manufacturing productivity is one of the best dynamic indicators of an economy's international competitiveness. As Table 2.19 shows, during the second half of the 1960s the US and UK had the poorest record on this criterion. Since these were also the two reserve currency countries, this had serious systemic implications for payments imbalances in the international economy.

The implications for domestic policy of these developments and the associated payments imbalances to which they gave rise were equally serious. The feasibility of a persistent US deficit depended on the ability to defend the parity against speculative capital flows. This was only viable so long as other countries were willing to accumulate dollars and resist the urge to convert them into gold. There were other forces militating against this outcome.

US Multinational Investment and the European Reaction

After the post-war recovery and the restoration of currency convertibility there was an upsurge of private US long-term capital flows and multinational investment in Europe. By 1966, there were nearly 9,000 American subsidiaries in Western Europe, over three times the number in 1957 (Spero 1977).

As we have seen this US direct foreign investment contributed significantly to the deterioration in the US balance of payments, particularly in the first half of the 1960s. It also generated other tensions, for the growth rate of American subsidiaries in Europe was considerably greater than that of the European companies (although because of the relatively slow post-war growth of the United States' economy, the growth rates of the American parent companies were in fact lower than those of their European counterparts (Rowthorn and Hymer 1971).

The European response was to seek a reduction in the US

Table 2.19. Manufacturing production, productivity, and indicators of competitiveness in six leading industrial countries, 1964-70 (average annual % growth rates)

	US	Japan	Germany	France	Italy	UK
Output	4.6	14.6	6.1	6.1	6.9	2.5
Output per man-hour	3.4	12.3	4.9	6.9	3.8	3.5
Wage costs per unit of output in national currencies	1.4	1.9	2.9	1.6	4.2	4.8
In US\$	1.4	2.2	4.5	-0.5	4.2	2.2
Export unit values of manufactures (in US\$)	3.5	2.2	2.5	1.6	1.0	1.9
Shares in 'world' exports of manufactures (%)						
1964	21.5	8.1	19.3	8.7	6.3	14.4
1970	18.5	11.7	19.8	8.7	7.2	10.8

Source: See Singh (1981).

payments deficit so as to limit the perceived American take-over of European industry (Ball 1982). Hence the French decision to ignore the US appeals to not convert their surplus dollars into gold.

In response to European pressures, in 1963 and again in 1965, the US introduced certain measures to stem capital flows (Argy 1981). However, these restrictions did not seriously slow down the growth of US multinational investment abroad which was increasingly financed out of borrowings abroad and reinvested profits.

Increasing Interdependence of the Industrial Economies

The GATT rounds of tariff reductions, the enormous increase in international trade, and the growth of multinational investment led to increasing interdependence among the industrial countries. Moreover, one paradoxical consequence of the US restriction on capital flows in the middle 1960s was to encourage the development of the Euro-dollar market and thus greater financial integration in the world economy. Over the decade 1965 to 1975, the Eurocurrency market grew at a rate three to four times that of world money supply, adding enormously to international liquidity.

The growing economic and financial integration of the OECD countries meant that there was an increasingly large impact of economic policy changes in one country, particularly in the leading countries, on other economies. Deflationary (as well as reflationary) impulses arising from attempts to adjust imbalances at fixed parities were more pervasive and destabilizing in their effects. There was also an increasing synchronization of economic expansions. Thus in the late 1960s the US was reluctant to restrict demand, and Japan was in the middle of sustained expansion. In these circumstances Germany's first post-war use of deficit financing in 1967-8 and a similar shift in policy stance in France in 1968, produced (in terms of the size of the initial impact) one of the largest recorded swings in the stance of fiscal policy among the OECD countries (Llewellyn *et al.* 1985). Such episodes of simultaneous fiscal or monetary expansion, whether brought about by accident or design, had serious repercussions for commodity prices, inflation, and payment imbalances in the system as a whole.

The Bretton Woods system can be regarded as having broken down in August 1969 when President Nixon suspended the convertibility of dollars into gold.³⁰ The dollar remained however the key currency in the system. And in August 1971, when the US formally

closed the gold window, the world moved to a fully fledged dollar standard. The US then also entered into negotiations which culminated in the Smithsonian Agreement of December 1971. In these negotiations, the US, until then still in favour of fixed exchange rates, demanded of its allies currency appreciation relative to the dollar.

This agreement did not last long. Under the pressure of massive capital flows, the UK floated its currency in 1972. Subsequently, other European countries floated their currencies and by 1973 all the major currencies were floating. The world had moved from a system of fixed exchange rates to that of managed floats. As a consequence of the floating rates the US announced the elimination of all capital controls in January 1974.

Was the breakdown of Bretton Woods inevitable? The mainstream view accepts its inevitability and is perhaps best embodied in the so-called 'Triffin Dilemma'. Triffin had argued that the system was flawed since it had no mechanism for automatic growth of international liquidity to meet the requirements of expanding world trade and economic activity. Under the Bretton Woods arrangements, as practised, the main source of such liquidity was the payments deficit of the US. Over the longer term, this had serious implications since it was bound to lead to a loss of confidence in the reserve currency. If, however, the US payments deficit was eliminated, this would reduce world liquidity and hence the world level of activity. To deal with this dilemma, many proposals for reform were mooted which culminated in the agreement to create SDRs in the mid 1960s. However, the so-called problem of international liquidity lost its urgency with the enormous growth of the Eurodollar market in the late 1960s and 1970s.

In our view the system was flawed for more fundamental reasons, namely the decline in US dominance due to the uneven development of the productive potential, and hence, the economic and political power of the leading industrial countries. As Block (1977) put it:

The fundamental contradiction was that the United States had created an international monetary order that worked only when American political and economic dominance in the capitalist world was absolute. That absolute dominance disappeared as a result of the reconstruction of Western Europe and Japan, on the one hand, and the accumulated domestic costs of the global extension of US power, on the other. With the fading of the absolute dominance, the international monetary order began to crumble. The US

deficit was simply the most dramatic symptom of the terminal disease that plagued the postwar international monetary order (p. 163).

From early 1968 the US attitude to its balance-of-payments deficit and to other problems of the international system had noticeably changed. It became more unilateral and overtly nationalistic. A prominent view (see Kindleberger 1965; Krause 1970) argued for a passive US approach to its balance-of-payments problem, a policy of 'benign neglect'. In effect this analysis amounted to an argument for flexible exchange rates as a way of freeing US economic policy from international constraints.

The International Order with Floating Exchange Rates

The collapse of the Bretton Woods system, and its replacement by floating rates, had serious implications for economic activity, employment, and policy in the OECD countries. First, the abandonment of fixed parities and dollar-gold convertibility and the reduction in gold's role in the international monetary system, reduced the constraints on the US freedom of manoeuvre over domestic and international policy. The US payments deficit and the position of the dollar remained, however, matters of concern to the US policy-makers. Some extreme proponents of the new regime had thought that with floating rates, the market would ensure balance-of-payments equilibria for all countries thus allowing each country autonomy in its monetary and fiscal policies.³¹ The balance-of-payments disequilibria following the first oil shock soon proved this view to be incorrect. Since the dollar remained the major reserve currency, its standing on the international currency markets was clearly a matter of international concern.

Second, and more importantly, at the international level the floating system had serious shortcomings. Although the US is still the largest economy, the global economic system is no longer being controlled and supervised by a single all-powerful nation as it was in the 1950s. Thus the floating-rate system of international regulation lacks coherence. In particular, the post-Bretton Woods trading and payments system is no longer capable of dealing with imbalances in the system in such a way as to ensure a world level of aggregate demand, and its distribution among countries which would be compatible with full employment in the OECD economies. The interna-

tional regime, under US hegemonic control, performed this task with outstanding success in the 1950s, and despite many difficulties with still considerable success for most of the 1960s. The inability or unwillingness of the US to provide the leadership necessary to re-establish an effective system of international regulation is central to the failure of the new regime. No effective collective or co-operative leadership among the OECD countries has been able to emerge to replace the former US role. Kindleberger (1985) is perhaps right in arguing that historically a collective leadership of the international economic system has been problematical; successful systems have invariably required leadership by a single hegemonic power.

As an example of the relative effectiveness of the pre- and post-1971 regimes we may analyse how successfully the floating exchange rate regime coped with the huge payments imbalances generated by the first oil shock. Table 2.20 shows the magnitude of the payments disequilibria which emanated from the oil shock of 1973. OPEC's current surplus rose fifteenfold to \$60bn. from 1973 to 1974, whilst the OECD countries' current balance deteriorated to around \$37bn. The 1975 recession, the sharpest until then in the post-war period, helped to restore the current balances in the OECD countries and to reduce the OPEC surplus. Over the next three years, with an enormous increase in OPEC imports, the OPEC surplus had more or less disappeared.

How efficient was this adjustment? There are several points which deserve attention in this connection. First, the OECD economies had to undergo a severe deflation in 1975 to reduce their current deficits. The floating exchange rates thus did not eliminate the balance-of-payments constraint for the industrial countries. As a proportion of world GDP, the OPEC surpluses were of much the same order of magnitude as the US surpluses during the immediate post-war years. The latter were gradually eliminated in the 1950s without impeding reconstruction and economic growth in Europe. This did not happen after 1973.

Suppose the world monetary system had been under similarly strong US hegemonic control in the 1970s as it was in the 1950s, what would have been the best way of dealing with the increase in the price of an essential raw material (oil) produced by only one group of countries (OPEC) in the system? It is not difficult to see that the optimal course would have been to maintain as far as

Table 2.20 Summary of payments balances on current account^a, 1973-79 (US \$bn.)

	1973	1974	1975	1976	1977	1978	1979
<i>Industrial countries</i>	20.3	-10.8	19.8	0.5	-2.2	32.7	-5.6
Canada	—	-1.6	-4.7	-3.9	-4.0	-4.0	-4.3
US	9.1	7.6	21.2	7.5	-11.3	-11.6	3.1
Japan	0.1	-4.5	-0.4	3.9	11.1	16.8	-8.0
France	2.1	-2.8	3.8	-2.4	1.0	8.5	6.9
Germany	7.0	13.0	7.6	7.7	8.5	13.4	—
Italy	-2.2	-7.6	-0.1	-2.6	3.1	7.9	6.4
UK	-1.3	-6.9	-2.6	-0.2	1.9	5.2	2.6
<i>Other industrial countries</i>	5.5	-8.1	-5.1	-9.6	-12.6	-3.5	-12.3
<i>Developing countries</i>							
Oil-exporting countries	6.7	68.3	35.4	40.3	30.2	2.2	68.6
Non-oil developing countries ^b	-11.3	-37.0	-46.3	-32.6	-28.9	-41.3	-61.0

Table 2.20. (Cont.)

	1973	1974	1975	1976	1977	1978	1979
<i>By analytical group</i>							
Net oil exporters	-2.6	-5.1	-9.9	-7.7	-6.4	-7.9	-8.5
Net oil importers ^c	-8.8	-31.9	-36.4	-24.9	-23.6	-32.7	-51.0
Major exporters of manufactures	-3.6	-18.8	-19.1	-12.2	-7.9	-9.8	-21.7
Low-income countries ^c	-4.1	-7.5	-7.6	-4.3	-3.7	-8.2	-10.4
Other net oil importers ^d	-1.1	-5.6	-9.7	-8.3	-12.0	-14.7	-18.9
<i>By area</i>							
Africa ^e	-1.9	-3.2	-6.6	-6.1	-6.6	-9.4	-9.9
Asia ^e	-2.6	-9.9	-8.9	-2.7	-1.7	-6.5	-13.2
Europe	0.6	-4.4	-4.9	-4.7	-8.4	-6.7	-9.9
Middle East	-2.6	-4.5	-6.9	-5.4	-5.1	-6.2	-8.5
Western Hemisphere	-4.7	-13.5	-16.3	-11.8	-8.5	-13.3	-21.4
TOTAL ^f	15.7	20.5	8.9	8.2	-0.9	-6.4	2.0

^a On goods, services, and private transfers.

^b Figures are rounded to the nearest \$0.5 bn.

^c The People's Republic of China, which is classified as a low-income country but is also a net oil exporter, is included in the total (from 1977 onwards) but not in the subgroups.

^d Middle-income countries that, in general, export mainly primary commodities.

^e Excluding South Africa.

^f Reflects errors, omissions, and asymmetries in reported balance-of-payments statistics on current account, plus balance of listed groups with other countries (mainly the USSR and other non-member countries of Eastern Europe and, for years prior to 1977, the People's Republic of China).

Source: IMF (1983).

possible the previous trend rate of growth of the world economy and to divert a somewhat greater proportion of this growing output to the OPEC countries without causing socially unacceptable rates of inflation in the non-OPEC economies. There would have been some adverse supply-side effects in the short-term because of the sharp changes in the relative prices of different kinds of fuels and of fuels and other commodities. However, as long as oil and other fuels were available in the necessary quantities, albeit at higher prices, and such prices were expected to prevail also in the future, there should have been a once-for-all supply-side impact of the oil price rise, with relatively little effect on the long-term trend rate of economic growth.³² Second, the achievement of this optimal solution in terms of world economic growth and its distribution would only have been achieved if the following conditions had been satisfied (Corden 1977; Feinstein and Reddaway 1983):

1. The non-OPEC countries would need to run current account deficits for some years if world economic growth was to be maintained; and an outflow of OPEC capital would need to finance them.
2. To be able eventually to service the debt accumulated, and to offset the fall in the world propensity to consume arising from low OPEC absorptive capacity, it would have been desirable to increase non-OPEC investment (particularly in fuel saving and in the development of alternative sources of energy) and to offset the fall in the world propensity to consume arising from low OPEC absorptive capacity.
3. The national rules of co-ordination in the non-OPEC countries would have needed to ensure a reduction in the rate of growth of real wages and other incomes in line with the deterioration in the non-OPEC terms of trade. Feinstein and Reddaway (1983) argue that: 'This should not in principle have been a difficult operation. The loss of real incomes caused by the initial worsening of the terms of trade was a non-recurring phenomenon and was less than the normal gain from one year's rise in productivity. All that would have been required was thus a brief pause in the normal advance of real wages.'

In view of the erosion of the national regulatory regimes discussed earlier it was, however, extremely difficult for the industrial countries to fulfil the last condition. Moreover, in a world of nation states,

of enormous short-term capital movements and widely fluctuating exchange rates, where no single state was in hegemonic control of the international trading and payments system, it was also far from easy to meet these first two conditions even *in principle*. This is because if each non-OPEC nation acted in its own national economic interest, rather than that of the world economy as a whole, it would be concerned not with the overall deficit between non-OPEC and OPEC, but with its own deficit with all other countries. Any single non-OPEC country could cover its deficit with OPEC by increasing its surpluses with the other non-OPEC countries. If all non-OPEC countries attempted to reduce their deficit in this manner (e.g. by deflation), the result would be a vicious circle of competitive deflation rather than economic expansion of the kind envisaged under condition (2) above.

At the beginning of the oil crisis, international organizations such as the OECD exhorted the non-OPEC countries to take a co-operative approach to reducing their deficit with the OPEC countries and to maintain their pace of economic activity. Not all countries acted on this advice and those who did so (e.g. the UK and some small European countries) soon found themselves with large current account deficits. Thus the problem of oil shock was not simply one of non-OPEC deficits with the OPEC, but it soon became one of large payments imbalances among the OECD countries themselves. As Table 2.20 shows, W. Germany and Japan ran sizeable surpluses in mid 1970s, Japan's surplus in 1978 was a huge \$16.5bn., and that of W. Germany \$13.4bn.

Moreover, although by 1978 the aggregate OPEC current account surplus was small, this was due to the deficits of the high absorbers (e.g. Nigeria) while the six main low absorbers (e.g. Saudi Arabia) were still running significant surpluses (see Table 2.21). The surpluses of the low absorbers were as much a source of disequilibrium in the international payments system as those of Japan and West Germany.

The difficulties facing the US under the new regime also became apparent in this period. In 1977 and 1978, the first two years of President Carter's new administration, the US economy grew quickly. This boosted employment and also provided a significant stimulus to the world economy. The US rate of unemployment fell from 8.3 per cent in 1975 to 5.9 per cent in 1978. The US economy was running close to, if not faster than, its productive potential. However

Table 2.21. Oil-Exporting countries: Balance of payments on current account, 1973-83 (US\$bn.)

	1973	1974	1975	1976
<i>Exports (f.o.b.)</i>	39.0	117.9	109.6	133.2
Oil exports	35.0	112.3	103.7	126.2
Other exports	4.0	5.6	5.9	7.1
<i>Imports (f.o.b.)</i>	-20.2	-35.8	-56.2	-68.1
Balance on merchandise trade	18.8	82.2	53.4	65.1
<i>Net services and private transfers</i>	-12.2	-13.9	-18.0	-24.8
Receipts	4.3	8.8	12.1	14.6
Payments	-16.4	-22.7	-30.1	-39.4
Balance on current account	6.7	68.3	35.4	40.3
of which:				
Six 'surplus' countries ^a	6.8	43.8	31.2	36.6
Other oil exporters ^b	-0.1	24.5	4.1	3.7

^a Defined to include the six countries that had a current account surplus each year: Libyan Arab Jamahiriya, Qatar, Saudi Arabia, and the United Arab Emirates.

^b Algeria, Indonesia, Iran, Nigeria, Oman, and Venezuela.

Source: IMF (1983).

in the rest of the OECD, the unemployment rates over this period either remained steady or rose as the rate of growth of demand and output was considerably below the productive potential (Oppenheimer and Posner 1983). Not surprisingly the net result of these policies was a huge deterioration in the US current balance: from a surplus of \$21.2bn. in 1975, to a deficit of \$11.6bn. in 1978 (Table 2.20). US inflation which had been falling in the mid 1970s rose to 7.4 per cent in 1978. The value of the dollar thus fell sharply on the financial markets. By November 1978, it had fallen by 20 per cent compared to its value a year earlier and had depreciated by 50 per cent against other major currencies compared with its value in 1973.

In view of the overwhelming significance of the dollar in world trade and capital flows, its continuing depreciation became a subject of wide international concern. Further, in the second half of 1978 foreign dollar balances in the US (excluding foreign holdings of liquid assets) exceeded \$200bn.; there were similar amounts of dollar claims held by non-US residents in the Euro-banks (Oppenheimer and Posner 1983). The US authorities as well as the foreign finance ministries thus became seriously concerned by the prospect that with the perceived weakness of the dollar, many holders of it might wish to switch out at whatever the rate.

These developments led the US authorities to urge surplus countries (Japan and Germany) to expand their economies. At the Bonn economic summit in 1978 it was agreed that in order to restore payments equilibrium among the OECD countries, the US should deflate and that Japan and Germany should take reflationary measures. On the basis of the preparatory work for the summit by the OECD and IMF (the so-called locomotive and convoy theories), detailed economic measures were accepted by the summit countries. West Germany undertook to launch within six weeks fiscal expansion equivalent to about 1 per cent of GNP. Japan agreed to achieve a real growth target in fiscal 1978 1.5 per cent higher than in fiscal 1977; it also promised to keep the volume of Japanese exports for fiscal 1978 at or below the level of fiscal 1977 (Llewellyn *et al.* 1985).

The extent to which the pledges of the Bonn summit were actually implemented is controversial, but soon the summit decisions were overtaken by the second oil shock. To reduce inflation, to correct the current deficit, and to improve the exchange rate of the dollar (all interrelated objectives), the US authorities had already adopted restrictive monetary policies at the end of 1978. With the second oil price increase, these policies were reinforced in 1979 and the US moved to a close approximation to pure monetarism: adoption of money supply ranges and the quantitative targeting by the Federal Reserve of commercial bank reserves (Nordhaus 1982). The extremely restrictive monetary targets led to a sharp deflation of demand as well as high and widely fluctuating nominal and real interest rates. With similar immediate objectives of containing inflation and current account deficits emanating from the second oil shock, the other industrial countries also put into effect restrictive monetary and fiscal policies. Thus unlike measures taken after the first oil shock, there was not even any attempt by the industrial economies in 1979 to counteract the deflationary consequences of the oil price increase itself.

The Less Developed Economies and the Newly Industrializing Countries (NICs)

A significant feature of the inter-shock period was the much better growth performance of the less developed countries (LDCs) relative to the OECD. As Table 2.22 shows, the first oil shock appears to have had little impact on the long-term trend rate of growth of GDP

Table 2.22. A comparison of growth rates for GDP, manufacturing value added (MVA), and exports of manufactures^a, 1960–1980 (% change p.a.)

Indicator	1960–70	1970–74	1974–80	1970–80
<i>Developing countries</i>				
GDP, in current dollars	7.8	20.7	16.8	18.3
GDP, in constant dollars	5.6	6.9	5.4	6.0
Total exports in current dollars	7.1	40.4	16.4	26.2
Total exports; volume index/constant dollars	6.9/7.3	4.3/7.3	2.3/4.4	1.5/4.4
MVA, in current dollars	8.7	20.9	15.2	17.5
MVA, production index/constant dollars	5.9/7.1	9.1/8.8	6.0/6.0	6.9/6.9
Manufactured exports, in current dollars	13.7	36.3	23.0	26.6
Manufactured exports, quantum index	—	—	13.4 ^h	—
<i>Developed market economies</i>				
GDP, in current dollars	8.4	14.4	13.2	13.7
GDP, in constant dollars	5.1	4.3	3.2	3.2
Total exports in current dollars	10.0	25.2	15.7	18.9
Total exports; volume index/constant dollars	8.5/8.0	9.6/8.6	5.3/5.6	6.1/6.2
MVA, in current dollars	8.1	15.1	12.2	12.5
MVA, production index/constant dollars	6.1/6.3	5.5/5.5	3.1/3.3	3.0/3.3
Manufactured exports, in current dollars	11.5	24.8	15.7	19.0
Manufactured exports, quantum index	10.0	9.6	5.3	6.5
<i>Centrally planned economies</i>				
NMP, in constant dollars	6.7	6.6	4.4	5.4
Total exports in current dollars	9.8	22.3	16.0	18.6
Index of industrial production	9.0	8.9	6.2	7.5
Manufactured exports, in current dollars	10.0	20.4	14.7	17.0

^a SITC 5–8 less 68.

^h 1975–80

Source: UNIDO (1985).

in the developing countries. Between 1960 and 1970, LDC rate of growth of GDP was 5.6 per cent p.a.; over the period 1974–80, it fell slightly to 5.4 per cent p.a. In contrast, in the OECD countries (the middle part of Table 2.22) there was a significant decline in the rate of growth of GDP from 5.2 per cent p.a. to 3.2 per cent p.a.

Similarly, manufacturing production in the LDCs rose at a rate of 5.9 per cent p.a. between 1960 and 1970 and at a slightly higher rate of 6 per cent p.a. during the inter-shock period 1974–80.³³ In the OECD countries, the trend rate of growth of manufacturing production was nearly halved between 1974 and 1980 relative to that recorded during 1960–70. Consequently, the Third World's share of world manufacturing production—which had remained more or less constant during the 1960s—increased appreciably during the inter-shock period: from 6.9 per cent in 1960 to 7.6 per cent in 1970; and to more than 10 per cent by 1980. Its share in world exports of manufactures also rose from 3.9 per cent in 1960 to just over 5.0 per cent in 1970; and to 9.0 per cent in 1980 (UNCTAD 1981). As Table 2.22 shows, during 1974–80, the volume of manufactured exports from the Third World countries increased at a phenomenal rate of 13 per cent p.a. whilst those from the OECD countries grew by 5 per cent p.a. During the 1970s, Third World imports into the OECD increased at about twice the rate of imports from other sources. These developments led to concern about de-industrialization in the OECD countries on account of cheap labour imports from the LDCs.³⁴

The Third World's economic performance during the inter-shock period is particularly remarkable in view of the huge payments deficits which the oil price increase caused in the non-oil LDCs. As a percentage of GDP the current account deficit of the average middle-income oil-importing country increased from 1 per cent in 1973 to 5 per cent in 1975; for the average low-income economy, the deficit increased from 2.4 per cent in 1973 to 3.9 per cent in 1975. These deficits were mainly financed by an enormous increase in commercial loans, particularly in the case of middle-income countries (World Bank 1978).

The total outstanding public long-term debt of these countries increased threefold between 1973 to 1979. Although the rapid increase of Third World exports meant that the debt to exports ratio of LDCs changed very little during the 1970s, other debt indicators do show a deterioration in the debt situation.

The increased Third World indebtedness in the mid 1970s was in line with market signals. Between 1974 and 1978, the average real interest rate (measured as the difference between the London Inter-Bank Offer Rate (LIBOR) on three-month US dollar deposits and the US GDP deflator) was only 0.5 per cent, and was on occasion (e.g. 1978), negative. By and large the LDCs used these loans to increase domestic savings and investment (IMF 1983; Avramovitch 1982).

In conclusion, superficially the floating exchange rate regime had coped with the huge world imbalances generated by the first oil shock reasonably well. Owing to a large increase in imports by the 'high absorber' OPEC countries, as well as deterioration in their terms of trade, by 1978, the aggregate OPEC surplus had disappeared. Moreover, private banking systems managed to recycle funds to the balance-of-payments-constrained Third World economies thus enabling them to maintain their growth momentum. However, even before the second oil shock of 1979, the system was subject to serious financial and exchange rate disequilibria among the OECD countries themselves. Even to the extent that the financial disequilibria of the oil shock had been accommodated, a heavy price had been paid by the industrial countries. The peak-to-peak growth rate of the OECD countries in the period 1973–79 was only 1.9 per cent p.a. compared with the corresponding growth rates of 4.8 per cent between 1966 and 1969 and 4.6 per cent between 1969 and 1973 (Llewellyn *et al.* 1985). As far as the Third World countries were concerned, notwithstanding their good growth record during the inter-shock period, they had large current account deficits and many countries were fast approaching their borrowing limits. In terms of the overall performance of the world economy, the post-Smithsonian system of international regulation was significantly less efficient in coping with international imbalances during the period 1973–8 than was the post-war system of international regulation under Pax Americana in the decade following the end of the war.

V. CONCLUSION AND PROSPECTS FOR THE WORLD ECONOMY

This chapter has argued that the erosion of the golden age economic regime began well before 1973 and that even without the exogenous shocks it would have been difficult to sustain. Our account of the

pre-1973 period thus differs significantly from the best-known mainstream writing on the subject. First of all we have emphasized the productivity problems prior to 1973, manifested in terms of slackening rates of labour productivity growth, faster reductions in hours of work, and declines in the underlying output/capital ratios. Neither Bruno and Sachs (1985), nor Lindbeck (1983), nor Maddison (1982) mention these latter two aspects in any detail. In relation to labour productivity, Maddison assumes that there was no significant deterioration before 1973, Lindbeck asserts that there was 'hardly any general slowdown of productivity among developed countries' before 'approximately 1972-74', and Bruno and Sachs play down the significance of pre-1973 productivity problems.

Second, we have placed strong emphasis on declines in profits prior to 1973. This is not mentioned in Maddison's account, and plays little or no role for Lindbeck (although he places great importance on the fall in profitability after 1973 in explaining the reduced rate of accumulation and productivity growth). Bruno and Sachs are rather the exception, pointing out that a 'soft landing' (after 1973) from the 'burden of inherited inflation and a growing profit squeeze' would have been difficult to manage even without the commodity and oil price explosion. They see 'real labour costs' manifested in their 'wage gap' (essentially a cyclically adjusted profit share) as a second supply factor of importance (in addition to commodity prices) affecting particularly Europe and Japan. They say 'even before the oil shocks, therefore, many OECD countries faced a major problem of declining profitability and slowing growth' (p. 167). They do not, however, examine this slowing growth (and particularly slackening of accumulation) in any detail. So in terms of the internal tensions there is more emphasis in our account on profitability and productivity.

Third, we have emphasized the inevitability of the breakdown of the post-war system of international regulation (the Bretton Woods regime) as a consequence of the differential development and the varied evolution of competitive capacities of the leading industrial economies. The new system of international regulation (the floating exchange rate regime) which came into force after 1973 was not subject to hegemonic control by a single powerful nation; nor had a co-operative leadership emerged to replace the former US role. In an increasingly interdependent world economy, the new system was therefore not capable of resolving global financial disequilibria in such a way as to ensure a full-employment level of world aggregate demand and its appropriate distribution among countries.

Fourth, in view of the close interconnections between balance of payment disequilibria, exchange rate changes, inflation, and the level of activity, we have stressed throughout the important interactions between national co-ordinating rules and the international order. The fragility of the world economy in 1973 is demonstrated by the deep and long-lasting stagnation triggered by the oil shocks.

During the period between the two oil shocks, the floating exchange rate system and national Keynesian policies led to a transitory period with some suggestion of stability between 1975 and 1979. However, the overall economic performance was much inferior to that of the golden age itself (see Table 2.6). Moreover, the erosion of the institutional and behavioural framework of the golden age interacting with the severe tensions (e.g. the payments imbalances and currency movements) of the international regulatory regime made the new system extremely vulnerable.

The second oil shock saw the final abandonment of what we have termed in section II the golden age regime. It is beyond the scope of this chapter to provide a proper discussion of such patterns as may be emerging in the post-1979 period. However, we briefly note that at the international level, as seen earlier, instead of attempting to compensate for the deflationary effects of the 1979 oil price rise, restrictive monetary and fiscal policies were strongly reinforced in the US and adopted by other major industrial countries. In an international economy, ever more closely linked by 'free' and gigantic capital movements, this resulted in the early 1980s in a beggar-my-neighbour competitive deflation and a prolonged recession. After 1983 the expansionary impacts of US policy benefited European, Japanese, and NIC export growth. But from 1985 onwards the combined impact of the US trade and public sector deficits meant that the US was less and less able to play the role of an independent engine of growth in the international system.

At the national level, the assault on the existing domestic rules of co-ordination within the individual countries has inevitably taken on a differentiated and uneven character. Nevertheless a number of common features can be discerned:

- (a) The golden age presumption that workers should bargain collectively to protect wages against inflation and to collect a share of the fruits of productivity growth was challenged. Norms of indexation were repudiated (Italy), and attempts made to weaken trade unions by legislation (UK—secondary picketing, Germany

- social security payments for strikers). Increasingly, collective bargains involved the giving up of previously established gains.
- (b) Demands for wage flexibility have been paralleled by demands for employment flexibility—the right to hire and fire through rolling back employment protection legislation (UK, France).
 - (c) Attempts to reduce the coverage and value of welfare state benefits have been general.
 - (d) There has been an explicit abandonment of full employment policy embodied in the adoption of rules about monetary growth and public sector deficits.
 - (e) There has been a general trend towards extending market pressures—privatization of nationalized industries (UK, France, Japan), cuts in government subsidies to loss-making firms and industries (Germany).

Viewed from the standpoint of governing economic circles in the leading OECD countries, this emerging new economic regime has already been 'successful' in some important directions. First, there has been a major change in the balance of power both internationally and internally. Internationally, the collapse of commodity prices, extremely high real interest rates, and the reduction of capital flows (all directly attributable to the economic policies of the advanced countries (Singh 1987; Lipietz 1985)) have greatly weakened the economic and political power of Third World countries. In the mid 1970s these countries were vociferously demanding a new international economic order, today most of them (particularly in Africa and Latin America) are severely constrained by adverse balance of payments, heavily in debt, and in the position of supplicants before the IMF and the World Bank. The latter two institutions are willing to provide the much needed foreign exchange only if these countries carry out so-called 'structural reforms', which usually follow the same pattern of denationalization, deregulation, and internal and external liberalization of markets which are the hallmark of changes in the advanced countries. Similarly in the latter, the bargaining position of the trade unions and of the working class in general has been weakened at both the workplace and macroeconomic level.

The second main success of the emerging new systems has been an improvement in inflationary performance compared with the mid 1970s. Instead of the stagflation (low growth and high inflation) of those years the 1980s have been characterized by low growth and low

inflation. This of course has been directly related to the weakened bargaining power of the unions and the fall in commodity prices that accompanied the changing internal and international balance of power to which we have just referred.

There are, however, important weaknesses in the 1980s record. First, although unemployment rates may benefit in the mid 1990s as the rate of growth of the labour force declines due to demographic factors, they look set to remain exceptionally high in most OECD countries. Only a trend increase in the rate of growth of world economic activity can offer the prospect of substantial improvement.

Second, despite many years of IMF management by means such as austerity programmes and debt-rescheduling, there is still no solution to the Third World debt problem in sight. The debtor countries have suffered enormous economic losses during this period without being anywhere near to recovering their creditworthiness or their pre-1980 long-term growth rates. A wide range of observers believe that for many countries the debt problem is no longer one of 'liquidity' but is one of 'insolvency' (see Cline 1985; Singh 1986; Lipietz 1985).

Third, there are extremely large payments imbalances in the international economy which have become a source of major instability on the world's currency and stock-markets.

Nevertheless, as long as high unemployment rates in the advanced countries are politically acceptable, the balance of advantage (from the standpoint of conservative governments in the leading countries) lies in continuing with the current macroeconomic pattern of low growth and low inflation. For if expansionary policies were followed and the world rate of economic growth rose on a sustained basis to anywhere near its golden age level, it will again lead to an increase in the power of unions as well as a sharp rise in commodity prices, including oil. This in turn will rekindle a conflict over distribution threatening to push up inflation. For conservative policy-makers the only perceived benefit of a trend increase in the rate of growth of the world economy will be that it will greatly help towards a solution of the Third World debt problem. However, they fear that this will be at the expense of rising commodity prices, inflation, and adverse changes in economic and political balance of power. Since there are a variety of other ways of addressing the debt problem (some write-offs, interest-capping, etc.), it is unlikely that the leading OECD countries will seek to expand the world economy for this purpose alone. They may, however, respond to US pressure to boost activity

as a way of softening the impact of reductions in its budget and trade deficits.

To be sure there is a great deal of discussion about policy co-ordination among the leading industrial countries to revive the world economy. However, it is important to note that the central objective of the policy co-ordination is not to bring about an overall increase in the rate of growth of world demand, but rather to redistribute the current level of demand among the leading countries in a way which will reduce their huge payments imbalances and thus help restore stability in the currency and financial markets.

The foreseeable prospect for the OECD countries (and hence for the world economy) must be at best one of continued slow growth. This perspective assumes that the policy co-ordination which is currently being pursued by the leading OECD countries is wholly successful; if it is not, the world economy is likely to grow at a still slower rate and even the possibility of a serious slump in the short term cannot be ruled out.

Finally, there are circumstances which could lead to much higher rates of growth in the OECD countries. For example, if the current high unemployment rates become politically unacceptable again in the leading countries, their governments will be obliged to seek a higher rate of growth of world demand. Second, if the reform programme in the Soviet Union shows spectacular success leading to a much higher rate of growth of productivity in that country, ideological and military reasons will compel the Western countries to improve their own economic performance. Growth rates approaching the golden age levels will only be feasible and sustainable with low inflation, on the basis of new domestic rules of co-ordination, and a rather different international order. However, this will require the abandonment of the fledgling economic regime of the 1980s.

APPENDIX

Decomposition of Changes in the Profit Rate

Tables 2.11 and 2.12 are based on the following decomposition:

1. Profit Rate

$$\text{Profit rate} = r = \frac{PROF}{NK} = \frac{PROF}{NY} \cdot \frac{NY}{NK}$$

where *PROF* = net operating surplus after adjustment for self-employment;
NK = net capital stock at current prices;
NY = net value added at current prices.

Writing this expression in approximate proportionate rate-of-change form, and using dots (for example, \dot{x}) for the proportionate rate-of-change variables ($\dot{x} = x^{-1}dx/dt =$ proportionate rate of change of x) we have:

$$\dot{r} = \left(\frac{\dot{PROF}}{NY} \right) + \left(\frac{\dot{NY}}{NK} \right)$$

Thus the rate of change of the profit rate is the sum of the rate of change of the profit share (*PROF/NY*) and the rate of change of the output/capital ratio (*NY/NK*).

2. Profit Share

$$\text{Profit share} = \frac{PROF}{NY} = 1 - \frac{W}{NY}$$

where *W* is employee compensation adjusted for self-employment.

$$\begin{aligned} \text{Wage share} &= \frac{W}{NY} = \frac{W}{P_q \cdot H} \cdot \frac{P_y \cdot H}{NY} \cdot \frac{P_q}{P_y} \\ &= w \cdot \frac{1}{LP} \cdot \frac{P_q}{P_y} \end{aligned}$$

where *P_q* = price index of gross output,

H = total hours worked,

P_y = price index for value added,

w = hourly product wages (wages deflated by gross output prices),

LP = hourly labour productivity.

Writing this expression in approximate proportionate rate-of-change form:

$$\left(\frac{\dot{W}}{NY} \right) = \dot{w} - \left[\dot{LP} - \frac{\dot{P}_q}{P_y} \right]$$

Thus the rate of change of the wage share is the excess of the rate of change of product wages over the rate of change of 'real factor incomes' (the bracketed expression). The rate of change of real factor incomes is the rate of change of productivity, adjusted for the effect of changes in the ratio of output prices to value added prices, which in turn reflects the relative prices of inputs (including capital consumption) and net value added. In Tables 2.11 and 2.12 the rate of change of product wages is estimated as the rate of change of real factor incomes plus the rate of change of the wage share.

3. Net Output/Capital Ratio

$$\text{Net output/capital ratio} = \frac{NY}{NK} = \frac{Ny}{Nk} \cdot \frac{P_y}{P_k}$$

where Ny = net value added at constant prices,

Nk = net capital stock at constant prices,

P_k = price index for capital stock.

$$\frac{NY}{NK} = \frac{q}{k} \cdot \frac{y}{q} \cdot \frac{P_q}{P_k} \cdot \frac{P_y}{P_q} \cdot \frac{Ny}{y} \cdot \frac{k}{Nk}$$

where q = gross output at constant prices,

k = gross capital stock at constant prices,

y = gross value added at constant prices.

Writing this expression in approximate proportionate rate-of-change form:

$$\left(\frac{NY}{NK}\right) = \left(\frac{\dot{q}}{q}\right) + \left(\frac{\dot{y}}{y}\right) + \left(\frac{\dot{P}_q}{P_q}\right) + \left(\frac{\dot{P}_y}{P_y}\right) + \left(\frac{\dot{Ny}}{Ny}\right) + \left(\frac{\dot{k}}{Nk}\right)$$

Thus the rate of change of the net output/capital ratio at current prices is the rate of change of the gross output/capital ratio at constant prices plus the rate of change of real value added relative to gross output and the 'effect of capital costs' (the last four terms). The effect of capital costs includes relative price effects (capital goods to gross output and gross output to value added), the changing real weight of capital consumption (reflecting the output/capital ratio and its asset structure), and the ratio of gross to net capital stock (reflecting its average age). In Tables 2.11 and 2.12 the second term is ignored (materials productivity has to be assumed unchanged for want of data), and the effect of capital costs is estimated *en bloc* as the difference between the rates of change of the net value added/capital ratio at current prices and the gross value added/capital ratio at constant prices. Data for relative prices of the capital stock and output (the third term in the expression above) is shown as a memorandum item.

NOTES

1. For compatibility with OECD series our data-set for profitability, capital accumulation, and state spending covers the 'Big Seven' (i.e. including Canada, see Armstrong and Glyn (1986)). We refer to this data as covering the ACCs. In the text we also on occasion refer to data for the OECD as a whole.
2. This general approach has been developed by the so-called Regulation School of French economists (see Aglietta 1976; Boyer and Mistral 1978; Lipietz 1979, 1983, 1985; Boyer 1986). What we have termed macroeconomic structure and rules of co-ordination correspond to what is sometimes translated literally as

regime of accumulation and mode of regulation. The golden age pattern as a whole is described by these writers as 'Fordism'. The details of, and emphasis within, our analysis of the golden age differ in many respects from this work (which in turn contains many nuances of interpretation); we draw also on other analyses in a broadly comparable tradition (Armstrong *et al.* 1984; Bowles *et al.* 1983; and Rowthorn 1980 in particular).

3. This section draws on a background of industrial country experience based on Angus Maddison's seminal contribution (Maddison 1982).
4. For the 'Big Seven' exports of manufactures between them rose as a percentage of total exports from 41% in 1950 to 62% in 1971 (Batchelor *et al.* 1980, Table 2.4).
5. This estimate was derived from a pooled regression of the growth of hourly labour productivity on the growth rate of the fixed stock of capital per worker for the big seven capitalist countries (excluding France) for three periods 1870-1913, 1913-50, and 1950-73, using data from Appendices C and D of Maddison (1982). A pooled regression for growth rates of the two variables over successive cycles during the years 1950-73 for the big seven countries yields an almost identical coefficient. Lindbeck (1983) reports similar regression coefficients. Such regression results could be interpreted within the 'growth accounting' framework as suggesting that differences in rates of technical progress across countries and time-periods generated nearly proportional differences in rates of capital accumulation. The kernel of truth in the growth accounting approach is that the impact of capital accumulation on productivity cannot be understood independently of the technology and work organization which accompanies it; its basic weakness lies in the implication that new technology and work organization can be incorporated in the production process *without* investment.
6. This is based on the simple decomposition of the profit rate (P/K) into $P/K = P/Y \times Y/K$, where P is profits, Y is output, and K is the capital stock. We present a fuller decomposition in Section IV.1 below.
7. The history of the spread of Taylorism throughout Europe and Japan during the inter-war period, and its implicit or explicit acceptance by much of the labour movement at that time has been extensively studied. In the US, Germany, France, and Italy the main battles over these principles began just before or after World War I. Reformist elements in the trade-union movement had accepted the 'bargain' as early as the 1920s. The pro-communist 'red international' of trade unions did so in the 1930s. None of this of course put an end to resistance at the shop-floor level. (See e.g. De Montmolin and Pastre 1984.) It is worth emphasizing that a prominent role has been claimed for the importation of scientific management technique as part of the Japanese strategy of importing advanced technology in the post-World War II period (see for example Caves and Uekusa (1976) and the references therein).
8. The original behavioural evidence behind the theory of the kinked demand curve—suggesting that producers try to avoid destabilizing short-term price warfare (especially in capital intensive industries), prefer to maintain stable long-term supplier-customer relationships, and more readily accept as 'fair' price changes based on actual or anticipated common cost increases—all pre-

- dates the post-war golden age period (Hall and Hitch 1939; Sweezy 1939; Means 1940). The structural basis for this behaviour, in markets where rivalry takes place between relatively few interdependent producers, was as we document below reinforced in these years.
9. The pace of these developments and the levels of cover provided varied between countries with the US lagging behind Europe, and Japan providing the least social protection of all (Flora and Alber 1981; Kudrle and Marmor 1981; Boltho 1975).
 10. In Japan the growth in transfer payments was by contrast very small from 3.7% of GNP in the mid 1950s to 4.5% by the early 1970s (Boltho 1975).
 11. Future customs unions and free trade associations were, however, under Article 24 of GATT specifically excluded from this general rule of equal treatment provided that they did not involve any overall increase in trade barriers against countries outside the union.
 12. A number of US scholars (e.g. Kindleberger 1987) emphasize the altruism of the Marshall Plan. That may well have been the main motivation of some of the economic architects of the Plan in the State Department, but as noted above, it was not that of others. However, by the time the Plan was approved by the US Congress, the US interest and the broader aims of US foreign economic policy were squarely in the forefront.
 13. Recipient countries were required to sign pledges promising a range of economic actions, including the stabilization of currency and reduction of trade barriers, which were in many respects more stringent than under IMF conditions for developing countries. See Block (1977).
 14. Full cost pricing does not guarantee fixed income shares unless firms can vary the timing of their price increases to account for unanticipated wage increases and include in their mark-up an element to cover the gap between price increases and expected wage increases which otherwise will have to be met (at the going cost of finance) by borrowing (see e.g. Tarling and Wilkinson 1985; Godley and Cripps 1983).
 15. E.g. Lindbeck (1983) and Matthews (1982). The fact that Bruno and Sachs (1985) play down the suggestion of a slow-down in productivity growth before 1974 is the more surprising since they actually find that in half the countries they examine the most significant break in the manufacturing productivity trend occurs before 1973 and they do not test whether in other cases (e.g. Japan) there was a break before 1973 though less severe than after 1973.
 16. This is because the golden age relationship shows every 1% faster growth in the capital/labour ratio increasing labour productivity by around 0.7% (and thus increasing the growth of the output/capital ratio by 0.3%). The regression coefficients are 0.76 for business and 0.68 for manufacturing. The smaller (unweighted) average decline in manufacturing productivity growth than business is largely accounted for by the United States where manufacturing productivity rebounded in the early 1970s, whilst business productivity growth remained at a low rate (see Table 2.7). For Japan the comparison is between the early 1970s and late 1960s which was the period of most rapid productivity growth.
 17. Such exercises to disentangle component influences of the profit share and rate were developed by Weisskopf (1979) and elaborated in Weisskopf (1985). The

- version used here differs from his in defining product wages in terms of output rather than value added prices which allow more explicit account to be taken of input costs. The Appendix to this chapter describes our decomposition more formally.
18. Looking at five periods of intensification of profit squeeze at the end of 1960s (US, Italy) or early 1970s (in the UK there were no such intensification) gives a rather different result. Productivity slowed down on average by 1.5%, real input costs deteriorated by 1.1% p.a. whilst product wages growth was unchanged (and real wage growth accelerated by 1.0% p.a.). The productivity recovery in the US in the early 1970s blurs the typical profit squeeze pattern in other countries at that time where productivity slow-down was important. Common to these various analyses is the fact that product wages did not accelerate, although real wages did. It should be noted also that the failure of product wages to slow down when real input costs were accelerating means that total real direct costs of production do rise faster in the early 1970s (line (d)).
 19. Unemployment rates were generally lower after the mid 1960s (Table 2.6) but had edged up a little in the EEC and USA by 1973. Vacancy statistics however suggest that strains in the labour market may have peaked rather later than registered unemployment, in 1970 and 1973 in Germany and Japan respectively. This is confirmed by data for agricultural employment which show a maximum rate of decline in the early 1970s in France, Germany, and especially Japan.
 20. Both the Chan-Lee and Sutch (1985) and Weisskopf (1985) studies of profitability find that indicators of international competition (relative unit labour costs and import penetration respectively) contributed to profit squeezes in some countries. The role of international competition in squeezing profits is a factor not analysed in the theoretical chapters in this volume.
 21. Since the profit share is defined in terms of net value added it is the trend in the current price net value added to net capital stock ratio which determines the profit rate. This differs from the trend in the constant price ratio of output to gross capital stock because of: (a) changes in the price of value added relative to gross output; as already discussed the late 1960s, and 1970s saw a rise in real materials and depreciation costs which further depressed the ratio of current price value added to the capital stock; and (b) changes in the price of gross output relative to the cost of capital goods; over the 1960s and early 1970s the prices of capital goods rose on average around 1% p.a. faster than the price of manufacturing output, further reducing the output/capital ratio in current prices. There does not appear to have been any tendency for the relative price of capital goods to accelerate prior to 1973 and the calculations in Tables 2.11 and 2.12 (line (e)) suggest some deceleration after 1973. For the typical major country the average decline in the output/capital ratio was about 2% p.a. in the early 1970s. This fall was about equally comprised of a fall in the real ratio, a decline in value added prices relative to output, and of rises in relative capital goods prices (lines (7)-(9) and (e) of Table 2.11).
 22. It should be noted that our profit variables are pre-tax. In the UK in particular more generous tax treatment of investment meant that the post-tax profit rate fell much less than the pre-tax rate (see Flemming *et al.* 1976). This does not seem to have happened generally.
 23. Predictions, based on lagged profit rate decline, are 3.3% fall in the growth rate

of the manufacturing capital stock in the US, 1.9% for Europe, and 3.2% for Japan; actual figures were 0.9%, 2.8%, and 4.6% respectively. We are not suggesting that the fall in the accumulation rate by 1974 in Japan and Europe only reflected the direct effect of the decline in profit rate recorded up to 1973. A regression including *only* the profit rate obviously incorporates the effect of variables—such as the growth rate—which may affect both profitability and investment directly. Moreover, the accumulation rate in 1974 must have been affected to some extent by the lack of confidence flowing from the oil crisis. It is striking, however, that in the manufacturing sectors of Europe and Japan around three-quarters of the decline up to 1974 in accumulation from peak rates had occurred by 1973.

24. It is interesting to note that the ability of Japanese management systems to obtain the commitment and co-operation of the labour force in precisely the area of maintaining smooth continuous production, has been identified as the key to the 'just-in-time' or kanban system. The economies in inventory holdings which this system yields, depend critically on the ability to keep the production system going. The Japanese success in the 1960s and 1970s in dealing with this contradiction in the Fordist pursuit of smooth, continuous production at lowest cost had the added advantage of minimizing the cost of redundant inventory when style or quality changes were introduced in final products. This reduced somewhat the emphasis on long standardized production runs. Thus the competitive challenge they could mount was based both on cost and on flexibility of product quality and design (e.g. Abernathy *et al.* 1983; Aoki, this volume). For further discussion of these issues see Marglin forthcoming and Noble (1984).
25. As argued earlier conventional growth accounting gives a relatively small weight to capital accumulation. Using our estimate of the elasticity of hourly productivity with respect to the capital/labour ratio of 0.75 (see n. 16) the decline in the rate of accumulation would explain on average half of the productivity slowdown after 1973 in six major countries, and a little more if some allowance is made for premature scrapping of capital equipment due to energy price increases (data from Maddison 1984, Tables 2.1 and 2.3).
26. Statutory controls were attempted, e.g. in the UK in the periods 1966–70 and 1972–4 and were in force throughout the 1960s in The Netherlands. In the US statutory control in 1971–4 followed government-inspired voluntary restraint in the mid 1960s (Blyth 1979).
27. Thus it has been argued that in the UK the spread of the multidivisional firm and the reorganization of industrial relations procedure following merger have been part of a management strategy to control wage costs and alter bargaining strength (Marginson 1985).
28. Rising from 3.4% to 4.5% in the US, 8.0% to 14.2% in the UK, and 10.1% to 15.8% in the rest of the EEC, with Japan recording a rise from 2.2% to 3.0% in 1973 before falling back to 2.4% in 1978 (CEPG 1979). A number of studies which adjust concentration ratios quantitatively or qualitatively for international trade and other changes in the corporate environment in this period conclude that competitive pressures were maintained or intensified, the latter especially in the case of the US and UK (EEC 1982; Marvel 1980; Utton and Morgan 1983).
29. Thus whilst unemployment compensation expenditure rose fairly rapidly from

1960 to 1975, after that the growth rate fell as more stringent eligibility criteria were introduced, and the unemployed became increasingly long term and more heavily dominated by those on the outside of the dual market especially the young and married women (OECD 1985h).

30. In March 1968, the US had already announced that it would no longer be prepared to convert privately held dollars into gold; nor would it support the price of gold at \$35 an ounce in the free market. This led to a two-tier gold market, with official transactions at \$35 an ounce and the free market allowed to reach its own level.
31. Thus the mainstream of the economics profession was overwhelmingly in favour of the floating-rate regime in the early 1970s (Llewellyn *et al.* 1985).
32. Dennison (1979) has estimated that this supply-side effect explained a fall of perhaps 0.3% p.a. in the rate of growth of US potential output after the first oil shock, out of a total decline of about 1.5% p.a.
33. Since the second oil shock affected the LDCs much more severely, the relative economic performance of these countries over the period 1974–8 is even better than suggested by the data in Table 2.22. Similarly it should be borne in mind that not all parts of the Third World did well in the inter-shock period; the economies of sub-Saharan African countries suffered a significant set-back after 1973.
34. A wide range of systematic studies have shown that Third World exports have not caused de-industrialization in the North, that the rate of growth of manufactured imports in the Southern countries was also very high, and that most non-oil LDCs remained balance-of-payments constrained. Evidence shows that the intra-Northern trade (e.g. with Japan) was far more destabilizing for Northern economies than their manufacturing trade with the South. For a full discussion of these issues, see Singh (1981), OECD (1979).