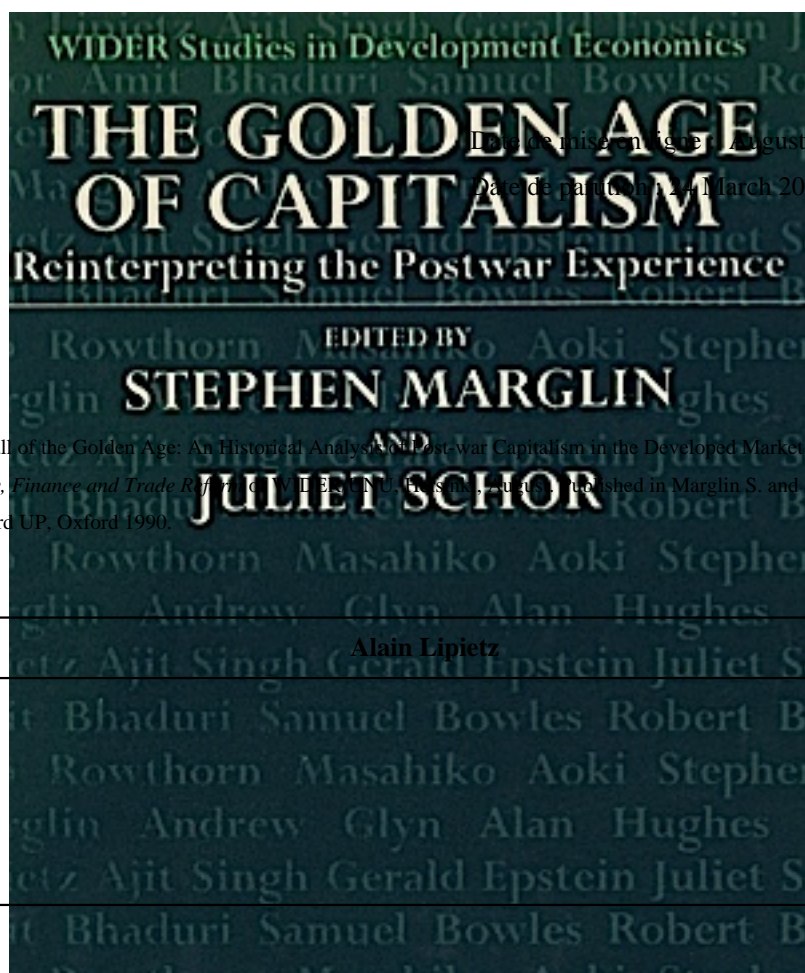


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The Rise and Fall of the Golden Age

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Studies in Development Economics embody the output of the research programmes of the World Institute for Development Economics Research (WIDER), which was established by the United Nations University as its first research and training centre in 1984 and started work in Helsinki in 1985. The principal purpose of the Institute is to help identify and meet the need for policy oriented socio economic research on pressing global and development problems, as well as common domestic problems and their interrelationships.

I. INTRODUCTION

In 1972 after two decades of what has been termed a golden age of economic performance it could be confidently written that there is no special reason to doubt that the underlying trends of growth in the early and middle 1970s will continue much as in the 1960s... the growth objectives and the capacity of governments broadly to achieve them, have not altered significantly and no special influence can now be foreseen which would at all drastically change the external environment of the European economics (United Nations 1972, p. 125).

Similar optimism could be found in forecasts and comments about the prospects for the OECD as a whole at that time. Whereas in the early 1960s OECD real GNP growth potential was forecast to grow by 4.1 per cent p.a. in the medium term, this had been revised upwards to 4.6 per cent by the mid 1960s and to 5.1 per cent by the early 1970s (McCracken *et al.*, 1977, p. 38).

Now after a decade and a half of stagnation and policy confusion the growth objectives of governments and their capacity to achieve them are viewed in a much more circumspect way. In contrast to earlier real growth rates of around 5 per cent OECD output growth in the medium term is currently forecast to grow at less than 3 per cent p.a., with no significant changes in unemployment rates by the end of the decade. A key question facing policy makers in the advanced and developing economics is whether this represents a permanent or long term decline in the growth prospects in the industrial countries, for on their rates of progress hinge prospects for the world economy as a whole.

We attempt in this chapter to throw some light on this vitally important question by adopting a historical approach to the pattern of post-war development across the advanced capitalist countries (ACCs). This approach is designed to examine the factors which lay behind the emergence of the period of rapid and sustained post-war advance in economic performance in these countries, well as the factors that lay behind the erosion of the 'golden age and which

account for the uneven and erratic progress since the early 1970s. We hope to isolate those factors which may be expected to persist as a permanent influence on progress in the longer term, as compared to those which are more transitory, as well as to reveal the fundamental characteristics of the golden age itself.

Our analysis ends in 1979. The appointment of Paul Volcker as Chairman of the Federal Reserve in that year symbolized the triumph of monetarist policies and ushered in a period of deliberate, heavy deflation, widely imitated abroad, especially in the UK. This effectively put paid to any prospect of overcoming the second oil price increase by conventional demand management. It finally ended attempts to breathe life back into the golden age economic regime.

The chapter begins with a short outline of the principal macro-economic characteristics of the golden age in the biggest six ACCs, (the US, the UK, Japan, Germany, Italy, and France) [1]. The length, steadiness, speed, and spread of the post-war boom are revealed to be so exceptional in the history of capitalism as to suggest that an explanation for its occurrence must be found in a unique *economic regime* rather than in a chance set of particularly favourable economic circumstances. We have thus organized our analysis of the functioning and emergence of the golden age in Section III in terms of a fourfold division of the principal characteristics of this pattern.

We discuss first the *macroeconomic structure*, which summarizes the macroeconomic relations which ensure the perpetuation of the growth path. Under this heading come the relations between wages and productivity, between profits and capital employed, and between investment and consumption. In this connection we place special emphasis on the profits-investment-productivity-wages-profits chain.

The key relationship between investment and productivity growth rests on far more than a technical relationship between machines and output. It is important to isolate the *system of production*, or general principles governing the techniques of production and the organization of work, most typical of a particular period. Such an excursion beyond what is conventionally regarded as economics into the spheres of industrial organization and sociology is, we believe, essential to a rounded account of patterns of growth.

Our third area of analysis is of the rules of *co-ordination* which produce compatibility between individual behaviour and the macro-economic pattern. This includes the systems of wage-setting and pricing which generate the path of distribution between wages and profits, the state fiscal and credit policies which guarantee incomes or maintain demand and so forth.

Finally, individual countries combine to form an international system, with a particular configuration of trade and capital flows reflecting a hierarchy of competitiveness, and function according to certain implicit or explicit rules. This is the fourth element in the pattern of development - the *international order*.

We believe that a particular pattern of development has to exhibit a coherence not just within these spheres, but between them as well. The macroeconomic structure of individual countries during the golden age was founded on and reproduced by a particular system of production, was regulated by a set of co-ordinating rules, and functioned within a particular international order. Such a structure could be undermined by problems originating in one or more of these spheres which then threw the others out of synchronization. The way in which this occurred is analysed in Section IV, which deals with the erosion of the golden age. This is followed by a final section in which we present our principal conclusions.

We trust that the account of the golden age and its erosion that we give in the course of this chapter will demonstrate that our approach is a valuable way of interpreting economic history [2]. We hope that it helps to create a clearer understanding of the constraints and challenges facing policy makers in their pursuit of a return to a more stable, full

employment growth path.

II. THE GOLDEN AGE IN HISTORICAL PERSPECTIVE

There is little doubt that the quarter century following post-World War II reconstruction was a period of unprecedented prosperity and expansion for the world economy. [3] Between 1950 and 1975 income per person in the developing countries increased on average by 3 per cent p.a., accelerating from 2 per cent in the 1950s to 3.4 per cent in the 1960s. This rate of growth was historically unprecedented for these countries and in excess of that achieved by the developed countries in their period of industrialization (World Bank 1978). In the developed countries themselves [Table 2.1](#) shows that GDP and GDP per head grew almost twice as fast as in any previous period since 1820. Labour productivity grew twice as fast as ever before, and there was a massive acceleration in the rate of growth of the capital stock. The increase in capital stock represented an investment boom of historically unprecedented length and vigour.

Rapid though the rate of growth of GDP was, it was outstripped by the growth in the volume of trade which was eight times faster than in the period 1913-50 and twice as great as in the century from 1820 ([Table 2.1](#)). Trade among the Western industrial economies was the most dynamic element in this, [4] with trade and output growth especially marked in manufactures. For the world as a whole output of manufactures more than quadrupled between the early 1950s and the early 1970s, and world trade in manufactures grew eightfold (Batchelor *et al.* 1980; United Nations 1972). The major industrial countries began the golden age with an inheritance from the inter-war Depression of a historically low proportion of manufactures exported and a low level of trade in manufactures ([Table 2.2b](#)). They ended it with the position radically transformed.

There were also major structural changes in the sectoral composition of total output and in the sectoral distribution of the labour force. These represented the continuation of the long-term structural transformation in employment away from agriculture towards industry and then services (Rowthorn and Wells 1987; Singh 1977, 1987). In this period the principal employment shift was towards services, with the industrial share peaking and then falling between 1960 and 1981 ([Table 2.3](#)). Since productivity growth in industry was substantially higher than in services between 1950 and 1973, the output share of industry did not shift to the same extent as employment.

The years 1950-73 were also characterized by a marked improvement in stability. [Table 2.4](#) shows that fluctuations in GDP and in export growth were substantially lower than ever before, with unemployment rates one third lower than in the period 1870-1913 and less than one half of those during 1928-30. Consumer prices, however, drifted upwards at an average of 4 per cent p.a., faster than in the previous periods analysed.

After 1973 there was a deterioration in the performance of the world economy and the industrial countries within it. Whilst investment in capital stock held up reasonably well to 1979 (Tables [2.1](#) and [2.4](#)), output, productivity, and export growth all fell sharply, instability in export volumes and GDP increased, and unemployment and inflation both rose. Even so performance during the period 1973-79 still looks comparatively good in long term historical perspective. The position deteriorated radically after 1979.

Whilst all the major industrial countries shared in this period of prosperity and stability to some degree, there were significant differences between them ([Table 2.6](#)). Thus the US experienced a more modest acceleration in output and capital stock growth than its principal industrial competitors and experienced levels of unemployment quite comparable with long-term historical experience (except for the worst Depression years). Equally marked was the failure of the rate of productivity growth in the US to match the acceleration experienced elsewhere. The growth of output per hour worked in the US remained around 2.5 per cent from the turn of the century to the 1970s (before

collapsing dramatically in the period 1973-81) (Maddison 1982). This was in stark contrast to the experience of the other major industrial countries, and has been consistently related by commentators to the technological leadership role of the US in the golden age (Maddison 1982; Freeman *et al.* 1982). As [Table 2.5](#) shows, between 1870 and 1913 technical leadership, as proxied by relative levels of output per hour worked, passed from the UK to the US. In 1950 only the UK of the major industrial countries had a productivity level over half that of the US. By 1973 productivity levels ranged between one-half and three-quarters of the US level and the gap continued to narrow thereafter.

These differential productivity performances were, as [Table 2.6](#) also shows, paralleled by export and trade performance, output and capital stock growth, the rate at which capital intensity changed, and in inflation and unemployment. Against this background of the long-term statistical record we can now turn to the first of our tasks, an account of the genesis of the golden age, and the nature of the economic regime on which it was based.

III. THE GOLDEN AGE AND HOW IT EMERGED

In this section we outline the main features of the golden age and indicate briefly how they emerged from post-war reconstruction.

III.1 The Macroeconomic Structure

The central features of the macroeconomic pattern during the golden age were: (i) rapid and parallel growth of productivity and capital stock per worker; and (ii) parallel growth of real wages and productivity. The significance of these two relations is that they guaranteed both a roughly constant profit rate and roughly equal growth rates of consumption and production, thus perpetuating the initial rate of accumulation.

Of course such golden age growth took place at very different rates in different countries (fastest in Japan, slowest in the US and UK with continental European countries somewhere between). Growth was mainly centred on the domestic market. Although international trade grew rapidly, it began from a very low base so that for individual countries (other than the very small ones) the domestic market dominated the overall growth of demand. Moreover, an increasing proportion of international trade took place between the advanced countries. Thus it was the internal market of the advanced countries as a group that provided the demand necessary to justify the investment.

As already emphasized the golden age saw an unprecedented growth rate of labour productivity along with a similarly high rate of capital accumulation (growth rate of the capital stock) ([Fig. 2.1](#)). Based on the generalization of mass-production systems (see Section III.2 below) it was this high rate of capital accumulation per worker employed that permitted the acceleration of productivity growth as compared to previous periods. Simple econometric estimates based on the experience of capitalist countries over the last 100 years suggest that for every 1 per cent growth of capital stock per worker employed, hourly labour productivity increases by 0,75 per cent. Given that on average capital per worker grew around 2.5 per cent p.a. faster over the period 1950-73 than during 1870-1913, this would account for about two-thirds of the 3 percentage points increase (from about 1.5 per cent p.a. to almost 4.5 per cent p.a.) in productivity growth actually observed. This point deserves emphasis because of the continued popularity of neo-classical growth accounting which typically attributes much less weight to capital stock growth [\[5\]](#).

The rough parallelism between the growth rate of capital per worker and productivity growth in turn ensured that the output/capital ratio remained roughly constant. This is an over-simplification inasmuch as other factors such as hours of work and relative rates of productivity growth in consumption and capital goods sectors are involved; nevertheless, taking the average of the ACCs, the ratio of net output to net business capital stock hardly varied between the early

1950s and the late 1960s ([Fig. 2.2](#)).

The profit rate depends on profit share [6] This in turn depends on the growth rate of product wages (that is, measured in terms of business product rather than workers' consumption) rising in line with the growth rate of labour productivity. [Fig. 2.3](#) shows that these constituents of the profit share grew in parallel. Together with a stable capital/output ratio this contributed to the rough constancy in the profit rate ([Fig. 2.4](#)).

The balance between the growth of real wages and productivity does not simply ensure that the profit rate is maintained; it also allows consumption to grow roughly in line with production. Between 1952 and 1970 the private consumption of the ACCs rose by 4.2 per cent p.a. whilst production rose by 4.5 per cent. A fundamentally new development of the post-war period was that the massive growth in production was counterbalanced by an equal growth of consumption a growth of consumption which, as a result of the institutional and policy innovations discussed below (Section III.2) came to be more or less universally forecast and anticipated, extending to all sectors of the population but first and foremost to wage-earners.

The significance of the growth of consumption lay not only in the impact on mass living standards but on the assurance it gave to those taking investment decisions of a steadily growing market. This together with the maintenance of what was frequently an already very high profit rate, in relatively tranquil political conditions, provided the essential conditions for the perpetuation of the very high accumulation rates which had seemed likely to fade with the accomplishment of the tasks of post-war reconstruction.

These high rates of accumulation were certainly also bolstered by the rapid growth of international trade which permitted the most successful individual companies to invest at rates which could not have been justified simply by the growth of their national markets. The ratio of exports to GDP at constant prices increased from 9 per cent to 12.4 per cent between 1950 and 1965 and then accelerated to reach 16.8 per cent in 1973. Exports of manufactures also grew faster in volume terms than production, though for countries other than Germany this trend did not emerge strongly until the 1960s, and in part the overall figures reflected the relatively rapid growth of Europe and Japan where much larger proportions of manufactured output were exported. Despite this strong growth of the volume of exports, the proportion of resources devoted to exports (measured by the current price ratio of exports to GDP) actually declined in Europe and Japan up to the mid 1960s as productivity growth in the export sectors was relatively fast (see [Table 2.2a](#)). Moreover, whilst the proportions of imports in supplies of manufactures rose steadily in the European countries, by the early 1960s they were still below the levels of 1913 (Maizels 1963; Batchelor *et al.* 1980). So the stress placed on the growth of trade must be a nuanced one; whilst certainly important for individual sectors it was not until the end of the 1960s that production for international trade absorbed an increasing proportion of labour within the advanced countries - in this sense the golden age growth could be regarded as primarily domestically based.

Under the golden age pattern of development the inflation rate was not determined prior to the growth process and in principle could take on a range of values. The actual rate reflected the 'real' macro-economic pattern of productivity and income distribution determination. Unlike an (idealized) gold standard, where the determination of the price level reflects relative productivity growth in gold-mining as compared to production as a whole, the post-war structure of macroeconomic relations could have taken place in principle at any rate of inflation (positive or negative). The actual rate reflected the patterns of wage bargaining, price-setting, credit creation, and international economic relations outlined in Sections III.3 and III.4 below. Here we note that inflation was moderate at around 4 per cent p.a. between 1952 and 1968 in the advanced countries, slower in sectors where productivity growth was particularly rapid (exports, manufactures).

Our description of the macroeconomic structure of the golden age has left aside the question of how it was established within the various countries. It should not be assumed that it emerged relatively unproblematically from

the exigencies of post-war recovery; quite a complex and differentiated process was involved.

In the US the business capital stock grew at around 4 per cent p.a. from the end of the war up to the mid 1950s (this was double the average inter war rate but no higher than before 1914). The end of the war saw exceptionally high profits, even after tax the profit rate was similar in 1945 to the 1929 peak. Demand was kept high initially by pent-up post-war demand (including net exports to countries *reconstructing after war damage*) and then by Korean War spending and rearmament. Indeed as the latter burst of spending fell away, so did the accumulation rate. It fell to 2.5 per cent at the end of the 1950s until it was revived by the Kennedy-Johnson fiscal expansion, associated with social programs and then Vietnam War spending. Post-war institutional and policy development did not generate the level of investor confidence required to push up the corporate propensity to invest to a level sufficient to drive demand up to full utilization of capacity (and thus realize the potential full-employment profit rate). The US only experienced a brief period of exceptional accumulation (growth rate of the capital stock of nearly 5 per cent) in the latter part of the 1960s. To adapt Joan Robinson's colourful phrase, the US experience of the golden age was rather a limping one (giving rise to under-consumptionist analyses of the US of which Baran and Sweezy's (1968) was the most famous).

In the other major countries, by contrast, the rate of accumulation edged up more or less steadily to reach peak rates in the early 1960s (mid 1950s in Germany). The 1950s, therefore, saw an enormous investment boom. In Europe the rate of accumulation doubled after the late 1940s to reach some 5.5 per cent in the early 1960s; in Japan the acceleration was even more spectacular, a quadrupling of the growth rate of the capital stock to 12 per cent. This levered up productivity growth and allowed output to continue to grow rapidly after the reserves of spare capacity and unemployed labour had been used up. The other side of this investment boom was that business investment was also the most dynamic element of demand. As a percentage of GDP it rose from 10 per cent to 13 per cent in Europe between 1952 and 1961 and from 13 per cent to 24 per cent in Japan over the same period. Over the same period total government spending on goods, services, and transfers (at current prices) stayed rather steady at around 27 per cent of GDP in Europe and 16 per cent in Japan (Armstrong and Glyn 1986).

What role did high or rising profits play in this process of accelerated accumulation? After the war the balance between productivity and wages allowed the profit share to be at least at corn arable levels to pre-war (even in Germany and Italy where pre-war meant the fascist system). These high rates of profit were generally maintained until the end of the 1950s, before the slow downward trend set in (see Section IV.1). Japan was the exception where profitability climbed from far below the pre-war figure to a level probably exceeding it by the end of the 1950s (Armstrong *et al.* 1984, Chart 6.4; Armstrong and Glyn 1986).

This high level of profitability was a necessary condition for the investment boom of the 1950s (and in Japan in particular was further increased by that boom (Armstrong *et al.* 1984, ch.8). But it would be wrong to see that investment boom as simply flowing mechanically from the high profit rate. All these countries, with only the UK a partial exception, underwent periods of severe deflation during the period 1947-50. Conservative governments bolstered by Marshall aid, a potent symbol of US support, sought successfully to restore the 'social and financial discipline' which had been disrupted by the turbulence of the immediate post-war years (Armstrong *et al.* 1984, chs. 4 and 6).

Whilst successful, these deflationary policies did not immediately restore confidence in the vision of a smooth progression of the economy towards US productivity and consumption standards. In 1951 stock markets in Europe registered share prices., adjusted for inflation, well below the pre-war level. The UN Economic Commission for Europe reported 'The general impression was that, after the Korean boom, Western Europe with the notable exception of W. Germany had entered a period, not of outright downturn, but rather of protracted stagnation' (UNECE 1955, p.3). In the same report the UN noted that such expectations had been disproved and that 'one of the notable features of the present upswing in Europe is the great increase in purchases of consumer durable goods' (p. 21). This underlines the fact that whilst investment, underpinned by high profits, was the most dynamic factor the growth of consumption expenditure was an essential part of the process of expansion.

In Japan the pattern was rather different; between 1955 and 1961 production of investment goods trebled, whilst consumption (public and private) rose by less than 50 per cent. This extraordinary burst of investment, probably unparalleled in the history of advanced capitalist countries, defies any simple explanation; with hindsight it is clear that all the preconditions high profits, abundant and now docile labour supply, access to new technologies, an active industrial policy, and a state committed to rebuilding positions in world markets - were there, but that hardly accounts for the virulence of the upswing. It was not till the 1960s that Japan exhibited the macroeconomic pattern of more balanced growth typical of the golden age.

The golden age structure was reached at different times, by different routes, and corresponding to different rates of expansion in the various ACCs. It should be seen as a way of comprehending the most important trends and interrelationships, rather than as a precise description of the course of development within individual countries.

III.2 The System of Production

The golden age saw the consolidation and extension of the Taylorist principles of work organization (Braverman 1974; Coriat 1978):

(i) Rigorous standardization of work practices through analysis of the 'one best way', covering both the manual operations themselves and the time taken to carry them out.

(ii) A corresponding separation between the conception of work (design, engineering) and its execution.

Taylorism was aimed at increasing productivity in its strict sense (output per unit of effort) by the generalization of the most efficient methods of production, themselves the product of a collective process of 'learning by doing'. But Taylorism was also aimed at control of the intensity of work (effort per hour worked) through the standard procedures with which the worker was obliged to comply.

The expansion of Taylorism was partly extensive. The proportion of those at work who were self employed, and therefore not directly subject to Taylorist methods of control in the workplace, fell from 34 per cent of total employment in 1954 to 17 per cent in 1973. The most important reason for this was the run down of numbers working in agriculture. Industrial employment (the traditional heartland of Taylorism) rose more slowly than services, but Taylorist principles were extended into many service sectors as well (supermarkets, typing pools) (Lipietz 1978).

But the most important expansion of Taylorism was intensive - the incorporation of work norms into the machinery itself. The classic example, and the symbol of post-war mass production, is the car assembly line where the operations required of workers and the time allowed to carry them out are dictated, mechanically, by the machinery. The separation of conception and execution is thereby deepened because the design of new machinery, as well as associated work practices, is entirely divorced from those who work the machines. Mechanization was not of course a new phenomenon, but the unprecedented rate at which it occurred during the post-war period justifies singling out the golden age system of production as a qualitatively distinct combination of Taylorism and mechanization.

The spread of best practice American technologies and systems of work organization throughout Western Europe and Japan was reflected at the macroeconomic level in the slow process of 'catch-up' of average productivity levels. In the immediate post-war years employers in some countries (notably Japan and Italy) faced the strong and organized opposition of workers to rationalization which was the precondition for the introduction of such technologies. It was not until the late 1940s that the employers' hands were sufficiently strengthened to move ahead as they wished. In other countries (Sweden) a more or less explicit bargain was made whereby labour traded off growing wages against managerial freedom to reorganize production. Common to all were productivity missions sent

to the US to bring back the message as to how American prosperity could be emulated. Thus the delegation sent from the UK by the TUC to study the role of US trade unions in promoting productivity emphasized the need to come to terms with 'scientific management'. [7] The various joint industry teams from the UK were unanimous in recommending 'more standardization, more research; the use of more effective managerial techniques (e.g. time study and budget control), more mechanization (especially of, handling operations), and the better layout of existing factories (Leyland 1952, p. 395).

III. 3 Rules of Co-ordination

Our interpretation of the golden age has emphasized a macroeconomic structure which was characterized by: profit shares roughly stabilized as a result of roughly parallel growth in productivity and earnings; an unprecedented investment boom; persistent but by later standards moderate inflation; and an overall balance between the rate of growth of productive potential and the demand for output. However, capturing the essence of the golden age requires more than defining arithmetically the macroeconomic conditions for balanced growth. It also requires a discussion of the rules of coordination which led decisions by economic agents - firms, groups of workers - into paths consistent with those macroeconomic conditions. It is, thus, a question of the social acceptance of these conditions and of the institutions seen as guaranteeing them.

Two aspects are of central importance: first the interrelationships between price and wage formation, productivity growth and profits; and second the role of the state in macro- and micro-economic policy formation (e.g. demand management, competition policy, and the provision of social welfare).

Prices, Wages, Productivity, and Profits

In the golden age prices of industrial goods were much as before determined by adding a mark-up to costs in a way which was relatively insensitive to short-term variations in demand. Primary products, however, remained more sensitive to short-term fluctuations in the balance of market forces [8]. By contrast there were important developments in the pattern of wage formation. Wages were determined by a bargaining procedure that was increasingly collective and centralized in nature. In wage and price determination the state took an increasingly active role via incomes and prices policies, welfare state provisions, and its role as a major employer and producer.

Wage Determination

Increasing concentration was associated with increased insensitivity of mark-up-based pricing to short-run variations in demand and with concentrated industries having more stable mark-ups over the cycle (Blair 1972; Hultgren 1965; Means 1935; Boyer and Mistral 1978).

Given the system of fixed exchange rates which characterized the international order in this period, the ability to maintain margins in the face of international competition depended essentially on control over input costs. Since raw material costs were largely set on international markets, control of unit wage costs, through superior productivity growth and the ability to strike a keener wage bargain was crucial. It was a primary characteristic of the golden age that the money wage bargains produced nevertheless a rapid rise in real wages, linked more or less closely to productivity growth.

This link did not emerge on the same terms, or in the same way, in the individual ACCs. Once established, however, its more or less explicit recognition became embedded in the particular institutions of the wage determination process, so that a general law could be said to have emerged, in which the rate of money wage increases corresponded to the rate of change of prices plus the rate of change of productivity. Institutionally this involved

elements of the following processes (Eatwell, et al. 1974; Turner and Jackson 1970; OEEC 1961; OECD 1979; Tylecote 1981):

Leading companies in the most dynamic sectors reached collective agreements with their workers, incorporating a cost-of-living element and an annual improvement factor. These agreements then spread across companies in those sectors, either spontaneously, or under union pressure, by the authority of employers' associations or as a result of state action.

Similar wage increases spread out to the non-leading sectors through the pressure of labour-market collective bargaining and/or indexed minimum-wage regulations.

Depending on the relative strength of these mechanisms (leading sectors, plus comparability and wage drift), the money wage rises were more or less general and the labour markets more or less 'dual'. This implied an upward drift in prices but also that the, general rise in productivity would be reflected in a general rise in consumer purchasing power. Since business expectations came to reflect this, the overall effect was a general encouragement to capacity-expanding investment. There was also a particular encouragement for leading firms because the most efficient producers were able to squeeze the margins of their less efficient competitors by forcing up their wage costs. They were also encouraged by rising wages to scrap their own least efficient plant (Salter 1959).

All of this is not to suggest that individual wage bargains were made explicitly on the basis of anticipated macroeconomic outcomes. Rather it was the mechanisms of wage-bargaining and competitive rivalry in fix-price markets for manufactured goods that tended to produce that effect.

Market Structure and Price Determination in Industrial Goods

The increase in centralization and collective bargaining in the labour market was matched by structural changes in product markets. The period between the 1930s and the early 1950s saw slight downward movements in aggregate concentration in the US, Japan, and the UK, and there were initially concerted efforts to deconcentrate and restructure German and Japanese industry during the US occupation. But outside the US the golden age was marked in all the major industrial economies by an upward drift in the concentration of domestic production especially in the mid and late 1960s. The technical basis of this, in terms of capital intensity and scale economies, was reflected in a parallel but much less marked tendency for Average plant sizes to increase and in the emergence of similar industrial patterns of concentration, across countries. These trends were reinforced at the beginning of the period in France, Italy, and the UK by a substantial programme of public ownership and nationalization, and later by extensive merger activity. This was predominantly horizontal in character in Europe and Japan, and conglomerate in the US (Hughes and Singh 1980; Lieberman 1977; Caves and Uekusa 1976).

The renewed tendency for domestic production to be concentrated in fewer hands was not associated with a general increase in the degree of monopoly power. In fact the period was marked by an increasingly widespread anti trust attack on restrictive trade practices, and cartelization (Edwards 1967). More significantly, the increasing concentration of domestic production was the outcome of a competitive process that was increasingly international in character. The enormous expansion of manufactured exports and intra-European trade, coupled with substantial direct investment flows as the period wore on, was associated with an increase rather than a diminution in the intensity of competition. Whereas domestic concentration rose, world market concentration was stable or fell in a wide range of primary and manufacturing industries (e.g. automobiles) and US and UK multinational dominance was challenged by the growth of European and especially Japanese corporations operating and trading on a world scale (Vernon 1977; UN 1978; Franko 1978).

Welfare State Transfer Payments and the Growth of the Public Sector

Collective agreements, minimum-wage legislation, and the competitive process provided the essential framework within which the incomes of active wage-earners rose with productivity. A similar outcome for the economically inactive emerged with the growth of welfare state transfer payments.

The social conflicts of the first half of the century (and the rivalry between fascist, communist, and social democratic systems) led to the successive introduction of collective provision for those rendered inactive by industrial accidents, sickness, and age, and to a limited degree by involuntary unemployment. The golden age was characterized by a great expansion in the coverage and level of support for those made unemployed (including those formerly self-employed); the introduction of family allowances; the indexation of pensions to cost-of-living changes; and the introduction of earnings-related benefits and pension schemes. There was also a significant convergence in levels of support between countries [9] (Flora and Heidenheimer 1981; Shonfield 1968).

In Europe the share in current price GDP of transfer payments and subsidies to households as a whole rose from around 8 per cent in 1955-7 to around 12 per cent by the late 1960s and around 16 per cent by the mid 1970s whilst the share of income maintenance expenditures rose from 8.3 per cent in 1962 to 11.4 per cent in 1972 (Sawyer 1982) [10].

To the extent that these transfer and benefit incomes were themselves indexed to prices, and to earnings growth amongst the active population, then the tendency was reinforced for positive anticipations to develop of an upward general trend in purchasing power. Moreover, these payments contributed to an increase in the short-term stability of demand and of income. This eased the ability of wage earners to raise loans, thus facilitating the expansion of consumer credit arrangements.

The combination of public sector income maintenance and the high wage high investment pattern was so successful in maintaining effective demand that the policy problem for much of the golden age appeared to be how to damp down excess demand rather than how to boost it to maintain full employment.

There seem to have been two broadly defined routes of the implementation of welfare state policies. In some countries the golden age saw the emergence of a social democratic consensus in favour of full employment, the welfare state, modernization, and Keynesianism. In others a liberal capitalist restoration based on a more or less explicit suppression of radical elements in the labour movement was associated in time with the granting of similar reforms (Keohane 1984; Katzenstein 1978; Goldthorpe 1984).

The most obviously social democratic consensual systems have

been those of the Nordic countries, especially Sweden, whose post-war system has its roots in the pre-war period. There collective bargaining was centralized between strongly organized employer and trade-union federations, and based on an explicit recognition of the twin constraints of international competition and of the macroeconomic accumulation pattern. It included a conscious diffusion of settlements across different sectors of the economy and different classes of income recipient (Edgren *et al.* 1973).

In Germany a solution along the liberal capitalist restoration route emerged. Its elements included decentralized wage-bargaining, and pattern making settlements in key sectors; the use of its occupational power status by the US to prevent the emergence of socialist industrial initiatives; a union movement organized on US initiative on sectoral lines, concerned more with co-determination and recovery rather than short term money wage gains; and the use of Marshall aid to restore, via the banking system, the essentially pre-war corporate structure. The result was the

development of a virtuous circle of high profit, high investment led growth cycles (Kindleberger 1967; Shonfield 1968; Esping-Andersen and Korpi 1984; Hennings 1980; Faxen 1980; Markovits 1986).

Fiscal Policy and the Expansion of the Public Sector

A second important aspect of public sector activity was state civilian expenditures (e.g. on health, education, and other public-good and service provision), which (with Japan as a notable exception) rose half as fast again as output in the OECD economies in the period 1950-70. This growth along with the even faster expansion of transfer payments meant a substantial increase in the share of overall public sector expenditure in GNP, notwithstanding a relatively stable share and a declining share in GNP for expenditure on defence (Delorme and André 1982). Where as public expenditure was around 28 per cent of GNP in the OECD economies in the mid 1950s, it was around 34 per cent by the late 1960s and 41 per cent by the mid 1970s (OECD 1979).

This increase was largely but not entirely financed by taxation. The increased fiscal leverage meant an increase in automatic stabilization over the cycle. The balanced budget multiplier and when not balanced the tendency for the average fiscal stance to be expansionary ensured that private sector effective demand was reinforced and sustained by public expenditure patterns (see [Fig. 2.5](#)). Whether based on explicitly Keynesian commitments to full-employment demand management or not, public expenditures directly fostered and reinforced expectations of high and stable demand. Thus whilst private consumption and investment demand played the crucial dynamic role in the golden age without recourse to systematic public sector deficit financing, the fact that there was a growing perception that governments would run deficits if necessary was an essential complement to that role. By the 1960s policy-makers everywhere were claiming to be Keynesian, most significantly perhaps in the United States which until the 1960s had alone among the industrial nations persistently run its economy at below full capacity (Cornwall 1977; Maddison 1982).

Credit Supply and Inflation

In the macroeconomic pattern which we have described, the growth in the volume of transactions is determined by capital accumulation and productivity. Nominal prices and incomes are the outcomes of more or less formalized price and wage determination procedures. Given the velocity of circulation credit must be available to finance the resulting nominal value of total transactions. Credit creation to achieve this was possible in the golden age without the constraints imposed by adherence to national metallic currency standards, which proved so restrictive in earlier periods. This development of a pure credit money system at the national level was matched by the emergence at the international level of a dollar standard (see Section III.4 below). Adherence to fixed parities relative to the dollar in the Bretton Woods fixed exchange rate system obviously imposed limitations on the extent to which individual countries could vary their money supply for internal policy purposes. Nevertheless monetary policy operating under a typically hierarchical central bank-commercial bank system (Aglietta and Orléan 1982; Lipietz 1983) was sufficiently malleable to form an important element in macroeconomic demand management (e.g. in the US and Germany in the 1960s); and the ability to create credit at the national level was an important facilitating condition for sustained growth of real incomes. The question remains however of the extent to which real growth was accompanied by a particular inflation rate.

The process of price and wage determination described earlier is consistent with any overall rate of price change. The macroeconomic pattern of the golden age involved a sharing out of the gains of productivity between firms and wage-earners, the latter being the majority of customers. In principle this could be achieved by a stability in nominal wages, and a diffusion of the benefits of productivity in lower prices direct to customers. However, with productivity bargaining in leading sectors this is not possible. Moreover, to the extent that these bargains diffuse to other sectors an upward bias is imparted to prices elsewhere as they are marked up on wage costs. This effect can only be offset by reduced margins or improved productivity in the affected sectors. Without these forces leading to fully offsetting

price and productivity changes, the net effect is that relative price changes were brought about at the cost of a chronic upward drift in the overall price level (Lipietz 1986; Morgan 1966; Streetee=off&lr=lang_fr-

[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 Montmollin 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 tile 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 armor 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).