CHAPTER I

CAPITAL ACCUMULATION IN THE VICTORIAN AGE

In the half-century that separated the death of Queen Victoria and the accession of Queen Elizabeth, the Victorian world began to come into focus. It was not, as Mr G. M. Young has insisted, a world that stood still, but one in which institutions, attitudes and ideas—the values as well as the apparatus of industrial society—were in rapid change. ‘When I consider their assured morality, their confident acceptance of the social order, their ready undertaking of its obligations; I have a sense of solidity, tenacity, and uniformity, which all the time I know to be in large part an illusion of distance. . . . If I place myself in 1900 and then look forward for thirty-six years, and backward for as many, I feel doubtful whether the changes made in the earlier time were not greater than anything I have seen since. I am speaking of changes in men’s minds.’

Behind these changes, dominating the intellectual and social development of the period, were a small number of powerful and continuously operating economic forces. Of these none was so important as the growth of capital. On the one hand, this resulted from the prodigious thrift of the Victorians. In a deeper sense, however, the faith and outlook that expressed themselves in thrift were born of economic expansion and the growth of capital, and the line of causation was from accumulation to thrift rather than the other way round. On the side of demand, the growth of capital responded primarily to the revolution in transport with the coming of steam. To cover the land with railways and the seas with steamships made tremendous demands on the limited savings of western European countries. But this was not the most important outcome. The new forms of transport enormously reinforced the pulling power of undeveloped countries overseas and set in motion a resettlement of population over the surface of the globe. Thereby they released a fresh demand for capital to provide, not the marginal additions that the emigrants would have needed in their own country, but the whole stock of a newly founded community.

It is this resettlement that governs economic development in the later Victorian period. It continued an earlier movement—and one, which, by widening the market, had played a major part alongside the cheapening of capital in the industrial revolution a century earlier. But the

G. M. Young, Victorian England: Portrait of an Age, p. 149.
scale of resettlement was now altogether vaster. It was accelerated by
the capital that Britain and other countries lent or invested, and repre-
sented the most effective investment in the production of foodstuffs and
raw materials that Britain could have made. At its peak, in 1913,
foreign investment took over half the total of British savings; at its peak,
too, in the years between 1908 and 1913, foreign borrowing financed
over half the total addition to the stock of capital in the largest borrower
—Canada. It controlled the movement of import and export prices,
and through these the cost of living and the standard of living. No other
factor, whether technical ingenuity, greater capital, or better manage-
ment, exercised so powerful an influence in raising real incomes. Not
that the opening up of new countries was an unmixed advantage to
Britain, nor that all British investment abroad was in such countries
and assisted their development. But after 1870 the qualifications and
exceptions dwindled in importance.

Resettlement was not altogether an affair of emigration of labour and
investment of capital abroad. It took place also within Britain, the
countryside losing millions to the towns and yet retaining a fairly steady
population. Here, again, the readjustment in the balance was largely
a response to the new forms of transport. The replacement of rural
crafts by urban manufactures and of home-grown by imported food,
the breaking down of rural isolation, and the greater ease of migration
to other parts of the country or abroad, were all, in greater or less
degree, traceable to railway-building and the introduction of the steam-
ship. As with development abroad, it took the better part of a century
for the transport revolution to exercise its full influence on the distribu-
tion of population—if, indeed, the effects have even now been exhausted.

In the middle of the nineteenth century the building of British rail-
ways and towns took nearly the whole of Britain’s savings. A trickle of
capital found its way abroad, partly to finance railway-building on the
Continent, partly in commercial and banking ventures, and partly in
speculative loans to foreign governments, generally in the Near East or
in South America. It was not till after 1870 that the trickle began to
assume really formidable proportions and the growth of capital came to
centre on overseas development. Railways remained the favourite in-
vestment; but the railways that were financed were increasingly remote
from London. With the railway-building went other investment: in docks,
harbours and public utilities; in land, mines and forests; in primary
commodities of all kinds. The frontier of natural resources was thrust
back and the produce of the frontier found a ready market in Britain.

The process of development took place, like all biological develop-
ment, in spasms. In the human embryo, hair will grow first in one place
on the head, then in another. So in the development of the frontier,
first one country came into the limelight, then another. Construction went forward with a rush and finance for a time was abundant. Then the momentum perished; and when the next spurt took place, it was likely to be in some quite different area of the world.

These fluctuations did not look to those who lived through them as they do to us fifty years further on. Where we discuss short and long cycles, they talked of panics and depressions in trade. The regularity with which trade recovered from every check, the unremitting accumulation of capital, the steady advance in standards of living, all convey the impression of ineluctable progress. It is easy to imagine that belief in progress was an article of faith with the Victorians. But is this not another illusion of distance? There were some pretty hard bumps from 1870 onwards, and to contemporaries it must often have seemed as if the peak had been passed. They saw foreign investment fall below zero in the seventies and began to query—for the first time—the social utility of capital accumulation. They felt themselves in the middle of an interminable depression in the eighties. By the nineties industrial leadership was passing to the United States and Germany. After the turn of the century they had to wrestle with a rising cost of living and increasing foreign competition. They were not conscious, as Macaulay was conscious, of a secure lead and a glorious destiny. Every cyclical check might mean a permanent loss of ground.

The forty or fifty years before 1914 were clearly an exceptional period in economic history. It was symptomatic of the period that western Europe had invested abroad almost as much as the entire national wealth of Great Britain, the leading industrial country, and a good deal more than the value of the capital physically located in Great Britain. It was also symptomatic that Britain herself had invested abroad about as much as her entire industrial and commercial capital, excluding land, and that one-tenth of her national income came to her as interest on foreign investments. These conditions can hardly recur. Translated into the circumstances of 1951, and applied to the United States, they would imply American investments overseas of no less than $600 billion and an annual return on those investments of some $30 billion (or the equivalent of the British national income). Private investment abroad, in recent years, has not exceeded $1 billion per annum, and even this total has only been sustained by very large investments undertaken by the American oil companies. But if the same proportion of American resources were devoted to foreign investment as Britain devoted (out of a far smaller national income) in 1913, the flow of investment would require to be thirty times as great. The entire Marshall Plan would have to be carried out twice a year. The very extravagance of such
HOME AND FOREIGN INVESTMENT, 1870–1913

A hypothesis shows how little there is in common between the perspectives of the Victorian era and those of to-day.

Although the period was exceptional, it is full of interest from the point of view of economic theory. In the past it has been studied by economists mainly to gain an understanding of the trade cycle. But it is even more interesting for a study of the dynamics of continuous expansion. As has been suggested by a number of economists, the cyclical process was really subordinate to the process of growth and arose out of it. It is to the history of this period that one naturally turns to observe the interaction of long-period and short-period forces, the interplay of a few major variables, the magnitudes of the responses, the cumulative results. However guarded our interpretations, we are inevitably drawn to the Victorian age to verify those theorems in the study of capital and economic development which are beginning to find their way back into the text-books. I say ‘back’ because the classical economists gave their minds to this very problem of ‘accumulation’. It plays a central part, for example, in the doctrines of Marx; but for a long time after Marx it practically disappears from the treatises.1

It may be of some help in the formulation of a satisfactory theory of economic development to summarize the experience of those years. In the forty years 1875–1914 capital at home (other than land) increased from about £5000 m. to about £9200 m., or by over 80%.2 Foreign investment rose from £1100 m. to, say, £4000 m. in 1914, or by some 250%. Taking absolute figures, capital investment probably consisted of three parts home and two parts foreign investment. Of the investment at home, a large part was needed merely to maintain capital per head, for the number of employed persons rose by about 50% between the boom years 1873 and 1913. Out of a surplus of £4500 m. beyond what was necessary in order to keep domestic capital per head constant, not far short of £3000 m., or some 60–65%, was actually employed to increase Britain’s foreign investments.

The cumulative rates of growth in population and in the national income and capital from 1875 to 1914, or from the peak of 1873 to the peak of 1913, were roughly as follows:

<table>
<thead>
<tr>
<th>%</th>
<th></th>
</tr>
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<tbody>
<tr>
<td>Population</td>
<td>1</td>
</tr>
<tr>
<td>Income</td>
<td>2</td>
</tr>
<tr>
<td>Capital</td>
<td>1½</td>
</tr>
</tbody>
</table>

2 Using Stamp’s estimate for 1914 and Giffen’s (slightly amended) for 1875. The price level and the rate of interest were approximately equal at these dates.
3 These are averages at compound interest. The simple averages would be 3¼ and 2½ % respectively.
CAPITAL ACCUMULATION IN THE VICTORIAN AGE

Although income grew rather more rapidly than capital in real terms, the ratio between the two, in money terms, kept steady at just under $1 : 5\frac{1}{4}$. The reason for this lies in the slight fall in the cost of living and the slight rise in the price of capital goods over the period. In arriving at the rough percentages given above I have assumed a fall in the cost of living by 10% between 1875 and 1914 and a rise in the price of capital goods (capital at home only) by 10%.

Common experience suggests as normal, in a community at or near full employment, a rate of gross investment equal to 20% of income; and a rate of net investment, or saving, equal to about half—generally a little over half—the rate of gross investment. If we apply these conditions to a population increasing at 1% per annum, and with a total capital equal to about $5\frac{1}{4}$ years' income, we obtain the following results:

(i) Capital will grow at a rate that can be expressed as

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\frac{\text{Savings}}{\text{Income}} + \frac{\text{Capital}}{\text{Income}},
\]

and this will work out at $\frac{1}{2}$, or, say, 2% per annum.

(ii) Maintenance and depreciation will be of the same order of magnitude, i.e. 2% per annum. Since the stock of capital will be growing, however, this does not necessarily mean renewal of capital assets every fifty years. On the one hand, depreciation of stocks and consumers' goods (other than houses) are excluded from gross investment as usually measured; on the other hand, major repairs are usually included as well as renewals.

(iii) Capital per head will be rising at 1% per annum.

It is usual to treat capital accumulation as the chief source and cause of economic progress; and much of what has already been said lends support to this view of things. But for some purposes it is preferable to turn the relationship round and examine the growth of capital as a function of the increase in income. As the nation becomes richer it needs more capital, not to produce new goods or to improve technique, but to provide the same things in greater abundance. A large slice of current savings is needed to 'widen' capital rather than to 'deepen' it. The most obvious illustration is the growth of stocks and work in progress, which must generally keep pace with output. If stocks and work in progress come to half a year's income—the evidence suggests something rather less—they will form $\frac{1}{2} \times 5\frac{1}{4}$ or 9% of the national capital; and if income and capital rise at approximately the same rate, the proportion of current savings needed to maintain stocks at an adequate level will also be 9%.

A second illustration is residential building. Suppose that the capital required to house the population is equal to about one year's income.
HOME AND FOREIGN INVESTMENT, 1870–1913

(This assumption seems to be broadly applicable to the late nineteenth century.) Then if this situation holds—that is, if standards of housing do not move ahead faster than the general standard of living—dwelling-houses will form $1 \div 5 \frac{1}{2}$ or 18% of the national capital. Allowing for household equipment, furniture, and so on, the proportion will be even higher. Moreover, the proportion of current savings needed to house the population will also be 18% if capital and income, in money terms, increase at the same rate.

Even to build houses similar to those already standing, so as to provide house-room for the natural increase in population, will absorb 1% of a year's income or 10% of current savings. It will also be necessary to provide many other services—shopping facilities, schools, water supply, and so on, as population increases. A large proportion of current savings, therefore, will be hypothecated to providing for the growth in population. It is arguable from the foregoing analysis that the proportion is of the order of 50%; and that, if the rate of population growth doubles, so that the rate of increase, both of population and of capital, is 2% per annum, capital per head will cease to grow. This would be perfectly consistent with a continuing rise in capital per head in industry. For there are many fixed assets—the railways, for example—which could be stretched to cover a larger population without comparable additional outlay on capital account. The real issue is whether the rate of savings is independent of population growth. If it is—as seems likely—and if it is a simple function of income, the rate of capital accumulation, given full employment, will tend to vary inversely with the rate of population growth.

If, next, we take account of foreign investment, it is at once apparent why capital at home per head of population rose so slowly. If total capital per head was rising at only 1% per annum, the use of as much as half the nation's savings for investment abroad would automatically arrest any rise in domestic capital per head. Foreign investment was never as high as domestic (net) investment (except in 1913), but it was frequently half as large. In other words, domestic capital per head was often growing at as little as half of 1% per annum; and at least half of this was needed for capital 'widening'—for example, to allow stocks and residential building to keep pace with population and income. Home investment did little to promote a growth of national income at the rate of 2% per annum; indeed, the sources of this growth lay far less within the United Kingdom than abroad.1 It was not the growth of capital in

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1 Even with a marginal productivity of 10%, a growth of capital by 1% per annum would not by itself add more than about 1% to the national income unless it facilitated some simultaneous advance in technique, yielding a return to the consumer in lower prices, not to the investor in additional dividends.
CAPITAL ACCUMULATION IN THE VICTORIAN AGE

British industry that transformed the standard of living, but the reduction in the price of British imports.

There has been a great deal of argument amongst economists about the apparent inflexibility of the distribution of income in the years 1880–1914. But would one expect any great change under nineteenth-century conditions? If capital earned, say, 6% (i.e. if it was valued, like house property, at an average of 17 years’ purchase of net income) and amounted to 5½ years’ income, it would receive 33% of the national income. For this to vary it would be necessary for the ratio of capital to income or the yield on capital to vary.

Now, on the whole, capital and income tend to maintain a fairly steady ratio to one another. One might expect income to increase rather more rapidly, especially with the opening up of new countries, but against this, building costs show a slower rate of decline than other costs so that an increasing proportion of the national income is needed in order to maintain a constant rate of growth of real capital. The difference between the two rates of growth could rarely exceed 1% per annum and would normally be much lower. In fact, measured in money, it was negligible. But even if it had been as high as 1% per annum—if, say, capital had risen by 2% and income by 3% per annum—this would in forty years have done no more than reduce capital from 5½ to 3½ years’ income.

At the same time a large reduction in the return on capital was most unlikely. The yield on British capital was settled not by the outlets for it in British industry but by the opportunities of investment in other continents. The proportion of savings flowing abroad was too large for the two capital markets, home and foreign, to be independent of one another, even if the rates of return offered were not identical. The pace of overseas development did not slacken, for there were always large tracts of fertile land, new mineral resources, and so on, to be opened up. As soon as one settlement appeared to be yielding diminishing returns, another could be begun in a different area, while investment in the first was shaken down in preparation for yet another advance. Thus there was little need for any large-scale readjustments in yields because savings were excessive or because a faster rate of accumulation had become desirable and practicable. In 1914 the return on capital was what it had been forty years previously; and so, too, therefore, was the share of capital in the national income. It was impossible to foresee that that would be so; but in the circumstances it can hardly be thought surprising. In real terms domestic capital per head rose only by some 10%, so that there was little change in the balance between capital and labour at home; and overseas, large loans were made without outrunning
the quite exceptional opportunities of investment that happened to exist.

In the argument set out above no account has been taken of land as an element in the national capital. But there was a time when land was more than half the national capital, and even in 1875 it formed about a quarter. If either of the two ‘determinants’ of the share of capital (excluding land) were to increase, the share of capital (including land) might remain constant because of a gradual fall in land rent. In practice, land rent was too small an element in the situation for even the substantial reductions that took place from the late seventies onwards to have much effect.

Shares were not constant throughout the forty years. It is well known that at first capital lost ground and later regained it. It is also well known that the first period (from 1873 to 1896) was one of falling prices and the second (from 1896 to 1913) was one of rising prices. Again, it is hardly very surprising to find that inflation and deflation had the effects commonly attributed to them. The rate of interest, for example, behaved in the way that Irving Fisher would have predicted—rose when money was losing value, and fell when money was gaining value. Profits (including the return on overseas investments) were undoubtedly higher in the second period than the first. Rents, though they moved down and then up, probably showed smaller fluctuations than the cost of living. Finally, the national income itself rose less steeply after 1896 because of the movement of the terms of trade against Britain and perhaps also (though I am a little sceptical of this) because real costs ceased to fall or fell more slowly. Wage-earners gained most from the favourable movement in the terms of trade in the seventies and eighties and lost most from the subsequent reversal. On the other hand, capital lost through the damper that falling prices put on development, and gained from the very change in the terms of trade that cut into real wages in Britain, but made the primary producing countries more attractive and more profitable outlets for British capital.

Although the share of capital was the same at the beginning and end of the period, the share of capital invested in Britain was not. It formed a diminishing proportion of total capital and the return to it a diminishing proportion of the national income. Looking back, this would appear to have resulted from two circumstances. The first was the falling-off, after the middle seventies, in railway-building. For over thirty years the main investment effort in Britain had been concentrated on railways, but by 1875 most of the main-line railways were already in being, and from then on railway-building normally absorbed smaller amounts of capital and, what was more important, a smaller proportion of new capital. The second circumstance was that industrial capital was still
relatively small. Fixed capital in manufacturing industry was less in 1875 than the capital of the railways. It was transport and commerce that used large amounts of capital, not industry. In cotton, for example, the amount of capital employed was about £100 m. Yet at that time the cotton textile industry employed half a million workers, provided one-third of British exports, and was much the largest manufacturing industry. Even a rapid rate of growth in industrial capital, therefore, could not, starting from so narrow a base, readily take up the slack, when railway-building eased off.

The period of forty years that I have concentrated on witnessed some interesting see-saws about which much is said in later chapters. There was the price see-saw, down and up, already discussed. There was the home/foreign investment see-saw, one alternating with the other. There was an emigration see-saw, with periodic bursts followed by periodic lulls.

One such see-saw is in many ways the prototype of the others. In alternate decades (we have no yearly figures) the building industry expanded, then stood still or even contracted. In alternate decades, the cotton textile industry paused on its upward course and resumed it. The figures of employment in England and Wales are as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Employment in</th>
<th>Change in employment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cotton textiles</td>
<td>Building</td>
</tr>
<tr>
<td>1871</td>
<td>438</td>
<td>567</td>
</tr>
<tr>
<td>1881</td>
<td>408</td>
<td>690</td>
</tr>
<tr>
<td>1891</td>
<td>546</td>
<td>706</td>
</tr>
<tr>
<td>1901</td>
<td>529</td>
<td>953</td>
</tr>
<tr>
<td>1911</td>
<td>605</td>
<td>887</td>
</tr>
</tbody>
</table>

(a) For 1871–91 from H. of C. 468 (1895); for 1891–1911 from the 17th Abstract of Labour Statistics. The figure for 1871 is partly estimated.
(b) See below, p. 146.

This counterpoint, on examination, turns out to be a variation on an earlier theme, the see-saw of home and foreign investment. The building industry carried out a large proportion of home investment, and the cotton industry played a corresponding part in earning the foreign exchange out of which investments abroad were made. Thus the process of capital accumulation, now at home, now abroad, meant changes in the distribution of effort within Britain between capital goods and exports. When, as in engineering, both home and foreign markets were supplied, this shift of effort did not necessarily mean any large
displacement of labour. But the building industry had no foreign market; the cotton industry had only a limited home market. Those industries, therefore, were peculiarly exposed to the winds of investment as they blew, now off-shore, now on-shore. The cotton industry, being highly localized, was to all appearances the more vulnerable. But the appearance only became reality after the first World War. There were other export industries to share the impact; there were alternative employments in Lancashire to ease the blow. It is perhaps significant, however, that when foreign investment fell off, it was the employment of men in cotton textiles that reflected the changed circumstances, while the employment of women continued to increase. There may well have been some direct movement between cotton and building in the textile manufacturing areas of the country.

It would be a serious error to study investment fifty years ago as if we knew, or ever could know, all the facts. We are ignorant enough in 1952 of many of the most elementary facts about current investment, for all that our curiosity on the subject is so much sharper and our statistical dossier so much bulkier. We do not know, for example, whether the national capital is greater or less than before the war.¹ We do not know with any precision the magnitude of the fluctuations that are occurring in stocks and work in progress. Our knowledge of a period nearly two generations back is inevitably even more patchy. We can use a telescope as often as we like and swivel it down the century in search of this or that ‘law’ of development. But our observations are uncertain and blurred. What one man professes to see another may see differently.

This is particularly true of those cycles, long and short, which economic astronomers have reported in the Victorian skies. The figures of fixed capital investment reveal cyclical fluctuations of considerable amplitude and are at least not inconsistent with the theory that it was investment that dominated industrial fluctuations. But the evidence is insufficient to rule out any other hypothesis. For the trade cycle a more minute analysis, using monthly data, would be necessary. There are no reliable statistics of investment in machinery and plant—the element in fixed capital investment most sensitive to cyclical influences. We know little or nothing of the fluctuations in stocks. Yet a change in the level of stocks and working capital by 10% in one year was capable of producing as large a reduction in effective demand as a cut in gross fixed capital formation by 25%, or an increase in net savings by 50%.

¹ *A priori*, I should guess that capital has been accumulating at about 2% per annum, and that, if the national capital fell by 25% during the war, it must now be some 10% below the total in 1939. This would imply some growth in domestic capital, but not enough to offset the heavy loss of foreign assets.