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EUROPEAN MODERN ECONOMIC GROWTH

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Introductory remarks

Over the last two centuries, both population and production grew and economic activities were deeply changed. Simon Kuznets summarized this process under the label of 'modern economic growth', meaning a new economic period characterized by a huge sustained increase in the average standards of living. The first section of this text will consist of a general overview of the main quantitative and qualitative aspects of this process.

But, of course, goods and services are produced to satisfy human needs. Thus, we must know how these increased amounts of goods and services were used. This will be the subject of the bulk of the text. We shall review the different components of demand – final consumption and investment; private demand and public demand – and the determinants of their relative proportions, absolute growth and composition.

However, contemporary economies do not exist without foreign relations. Foreigners provide goods and services for domestic use and also buy part of domestic production. The study of foreign trade leads to the study of European relations with the rest of the world and their influence on the spread of modern economic growth. This will be the subject of the last section of this text

1. Modern economic growth

Over the last two and a half centuries, mankind has developed a process of social and economic transformation, the basic characteristics of which may be summarized as follows:

– a huge, relatively rapid and sustained increase in the average standards of living, despite apparent economic fluctuations [see box 1.1];

– a clear transformation of economic structures;

– a radical transformation of the economic system;

– a decisive transformation of relevant economic spaces.

The first three subjects will be dealt with in this section. The final section of the text will analyse the last one of these characteristics.

Box 1.1 - Economic fluctuations

The fact that the term 'modern economic growth' is used to describe a long-term process of a sustained increase in per capita product, does not imply a uniform process of growth. Actually, according to historical experience, growth has developed at different rhythms, showing economic fluctuations.

Available historical data on the level of economic activity in the world since the very beginning of modern economic growth is relatively scanty. However there is now some relatively safe quantitative information for the national economies in which modern economic growth started and for an increasing number of national economies, as we move towards the present day. We also have access to various statistical techniques, which enable us to depict the existence of the following types of movements:

(i) a general upward trend;

(ii) several cyclical fluctuations, showing some regularity in terms of their period and amplitude;

(iii) irregular movements, showing no regular period or amplitude.

The upward trend

The upward trend in the level of economic activity is the basis for the sustained increase in the average standard of living. Per capita product grew at a rate of slightly more than 1% per year over the last 200 years; population growth was similar. Thus, total economic activity experienced an annual average rate of growth of some 2%. Actually, this rate increased during the course of the period as a result of the spread of modern economic growth within the space and the faster rates of growth of latecomers in their processes of catching up with early comers.

As far as the explanation for the upward trend is concerned, this coincides with the explanation of the very process of modern economic growth presented in the text. It should be remembered that the mere accumulation of human and produced resources leads to prosperity and growth, but not to an increase in the standards of living. Innovations are the source of sustained growth or development through changes in production functions.

Cyclical fluctuations

Cyclical fluctuations, which evolve over the course of the trend, have different periods and amplitudes. Each fluctuation may be divided into two or four phases in accordance with their position within the trend itself: during phase A, the curve is above the trend, either diverging (phase 1 – expansion) or converging (phase 2 – recession); during phase B the curve is below the trend, either diverging (phase 3 – depression) or converging (phase 4 – recovery). The turning point from phase 2 to phase 3 is usually called an economic crisis. The beginning of a cycle is also the beginning of phase A (or phase 1).

The identification of cyclical fluctuations has been a controversial subject. Some economists and historians refuse to acknowledge their existence through a lack of undoubted statistical evidence. They merely identify phases in the course of modern economic growth related to external shocks (see, for instance, Maddison, 1992). Others have identified cyclical fluctuations by using different variables, proxy variables, relating to the level of employment, the level of prices and the interest rate. All of these variables encounter specific problems that disturb their expected regularities and interpretations.

Among the cyclical fluctuations whose existence has been upheld and extensively used to contextualize the economic history of the last 200 years, these are the ones that deserve special mention:

(i) Kondratiev cycles, whose existence was suggested by Nicolai Kondratiev in the 1920s, showing a period of about 55 years. Their identification in the context of the world economy has raised some doubts. A recent analysis which uses the Kondratiev cycles as its explanatory framework is Freeman, Louçã, 2001.

(ii) Kuznets cycles, suggested by Simon Kuznets in the 1920s, showing a period of around 22 years. Their identification in the context of the world economy has raised serious doubts.

(iii) Juglar cycles, suggested by Clément Juglar in the middle of the 19th century, showing a period of about 9 years. These are the least disputed cyclical fluctuations.

(iv) Kitchin cycles, suggested by Joseph Kitchin, again in the 1920s, showing a period of around 40 months. Their identification in the context of the world economy has raised serious doubts.

(v) Seasonal fluctuations, showing an annual period, are the ones that are most widely accepted. It may be said that they were more relevant before modern economic growth, because of the natural conditions of agricultural activities, and that they have lost their impact since the sectoral changes inherent in modern economic growth have reduced the importance of the economic activity of a seasonal nature.

There are several hypotheses for explaining cyclical fluctuations. The ones that deserve most attention are: the monetary hypothesis, which puts the existence of these types of fluctuations down to changes in the

supply of money; the so-called Schumpeterian hypothesis, which emphasizes the incidence of innovations (technological, organizational and geographical) and changes in the pattern of demand; and the real business cycles hypothesis, which explains economic fluctuations as a consequence of real shocks (as against monetary shocks) of different kinds, both internal and external to economic life. Their presentation and discussion is, however, beyond the scope of this short introduction to modern economic growth.

Irregular fluctuations

As stated above, irregular fluctuations are the ones that show no regular period or amplitude. However, since they originate in external shocks, of either an extra-social origin (e.g. natural disasters) or an extra-economic origin (e.g. wars), they induce the so-called adapting waves as the economy adapts to the effects of the external shock through damped fluctuations similar to the cycles mentioned above.

1.1. The huge sustained increase in the average standard of living

Per capita gross domestic product is the indicator most commonly used to measure changes in the standard of living [see box 1.2]. Table 1.1 summarizes how this indicator progressed during the 19th and 20th centuries.

Table 1.1 – Per capita gross domestic product

region	level 1820 1990 USD	change 1820-1913 % per year	level 1913 1990 USD	change 1913-1990 % per year	level 1990 1990 USD
world	651	+0.9	1539	+1.6	5204
Western Europe	1292	+1.1	3704	+1.6	12272
Southern Europe	804	+0.8	1750	+2.0	8092
Eastern Europe	772	+0.8	1690	+1.7	6397
Anglo-Saxon New World	1205	+1.6	5237	+1.8	21261
Latin America	679	+0.8	1439	+1.6	4735
Asia	550	+0.3	742	+1.8	3031
Africa	450	+0.3	575	+1.1	1336

Source: Maddison, 1995.

Western Europe = Austria + Belgium + Denmark + Finland + France + Germany + Italy + Netherlands + Norway + Sweden + Switzerland + United Kingdom

Southern Europe = Greece + Ireland + Portugal + Spain + Turkey

Eastern Europe = Bulgaria + Czechoslovakia (including Czech Republic and Slovakia) + Hungary + Poland + Romania + Union of Soviet Socialist Republics (including Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan) + Yugoslavia (including Bosnia-Herzegovina, Croatia, Macedonia, Montenegro, Serbia and Slovenia)

Anglo-Saxon New World = Australia + Canada + New Zealand + United States of America

Latin America = North, South and Central America - Canada - United States of America

Asia = Asia proper + Pacific countries - Australia - New Zealand

Box 1.2 – Standards of living

To define the standard of living is a very difficult task, because it depends on the degree of satisfaction of rather heterogeneous needs: basic needs such as food, clothing, shelter, etc.; superior needs such as the enjoyment of luxury goods, occupation of leisure time, etc. How should the consumption of the bundle of heterogeneous goods whose consumption satisfies these needs be measured and compared between different people in the same society, and between societies from different periods and countries?

Measurement

One possible answer is to use relative market prices to value the quantities of different goods consumed by each person or by the average person in each society. This is a good solution, although it has a few drawbacks. Non-market economies have no adequate prices for making the calculations. Thus, to apply the method, prices from other economies (which means prices that reflect the social choices of another society) must be used. Even market economies have non-market sectors (e.g. non-profit seeking state activities such as security or traffic regulation) for which no adequate prices are available. Thus, to apply the method, some surrogate prices must be found. Different economies have different absolute and relative prices. Thus, to compute the standards of living with prices from different economies may lead to different evaluations of the standards of living, and even to different rankings of the standards of living of different societies.

Notwithstanding these drawbacks, the computation of gross domestic product figures, using current market prices when available and imputed non-market evaluations when market prices are not available, is a common (and sound, according to most economists) statistical procedure.

Comparisons

Comparisons of the situation of different people in the same society are usually based on the prices prevailing in that society in the relevant period.

Comparisons of the situation of the same country in different years may be based on the use of the prices of a given year. This is referred to as computing gross domestic product at the constant prices of that year. They may also be based on chain indexes, with each year's product being evaluated both at current prices and at the prices of the previous year. Although this requires more precise statistical information, this is the standard procedure recommended now by the accounting system of the European Union, because comparisons using prices from distant years tend to increase distortions.

Comparisons of the situation of different countries in a given year are usually based on the conversion of each country's product evaluated in its own national currency into a common currency (usually American dollars) using the prevailing exchange rate. This is called conversion at the exchange rate parity. Comparisons based on exchange rate parities are usually criticized because they ignore the differences in prices of the same goods that exist among different countries (sometimes these differences are very significant, especially in the case of goods that are not subject to international trade – e.g. most services). An alternative method is to use the ratio of the cost of a given bundle of goods in both countries. This is called conversion at purchasing power parity. Comparisons based on purchasing power parities depend on the bundle of goods chosen for the calculations, but most statisticians prefer them, because they are supposed to reduce distortions resulting from different relative prices in different countries.

Comparisons of the situation of different countries in different years must rely on a combination of methods. The most obvious procedure is, of course, to compare the situation of the two countries in one year using the exchange rate parity or the purchasing power parity, and then to proceed backwards (or forwards) using the constant prices method or the chain index method in each of them.

A further problem with retrospective national accounts, that is to say the reconstruction of gross domestic product figures for the early years of modern economic growth (and earlier), is that it must often rely on indirect methods of estimation, because of the scarcity of available information (on this subject, see the box 1.3).

All these comparisons and retrospective national accounts have also become a common (and sound, at least according to most historians) statistical procedure.

Human development index

An alternative procedure for evaluating the standard of living could be the use of objective indicators of the degree of satisfaction of a few selected (mainly basic) needs, combined with the use of certain agreed formula. This is what is done in the United Nations reports on human development. Objective indicators of

the degree of satisfaction of health and education needs (such as life expectancy, infant mortality rates, illiteracy rates, or the average number of years spent in education) are combined with the (seemingly inevitable) global indicator of per capita gross domestic product as a proxy variable for all other needs in order to form a human development index (for more details, see any recent issue of the United Nations Report on Human Development). As might be expected, some important differences do in fact exist in the ranking of countries according to different indicators (on this theme, see also Crafts, 1997).

The growth of per capita gross domestic product was roughly eightfold between 1820 and 1990. Even the worst performing region (Africa) experienced a significant increase (multiplication by a factor of around 3). This means that modern economic growth was truly a world phenomenon, although its rhythm was quite different from region to region, and some countries have not yet experienced its effects on their standard of living.

The 19th century was mainly a period of divergence among the regions of the world. Those which had a per capita gross domestic product clearly above the average in 1820 (Western Europe and the Anglo-Saxon New World) were the only ones to grow above the average rate until the eve of the First World War. Those which had a per capita gross domestic product slightly above the average in 1820 (Southern Europe, Eastern Europe and Latin America) grew slightly below the average rate until the eve of the First World War. Those which had a per capita gross domestic product significantly below the average in 1820 (Asia and Africa) grew clearly below the average rate until the eve of the First World War. As a consequence, regional differences were sharpened. At the world level, the ratio between the per capita gross domestic product of the most developed regions and that of the least developed regions (respectively, Western Europe in 1820 and the Anglo-Saxon New World in 1913, and Africa) rose from less than 3 to more than 9. At the European level, the ratio between the per capita gross domestic product of the most developed regions and that of the least developed regions (respectively, Western Europe and Eastern Europe) rose from less than 1.7 to more than 2.1.

Things changed a little during the 20th century, which witnessed a convergence process, albeit a geographically limited one. Southern Europe, Asia, and Eastern Europe joined the Anglo-Saxon New World in the group with growth rates clearly above the average rate, while Latin America joined Western Europe in the group with growth rates similar to the average rate, leaving Africa as the only region to experience growth rates that were clearly below the average rate. This ensured a reduction of the ratio between the per capita gross domestic product of the most developed regions and that of the least developed regions within Europe (respectively, Western Europe and Eastern Europe) from more than 2.1 to less than 2.0. The same did not happen at the world level. Although Asia came closer to the average, and Latin America more or less maintained its position, the ratio between the per capita gross domestic product of the most developed regions and that of the least developed regions (respectively, the Anglo-Saxon New World and Africa) rose from less than 10 to more than 15.

Of course, an analysis undertaken at a national level would reveal sharper contrasts, as well as some cases of total stagnation and even reduction of the standards of living during these two centuries, while an analysis using shorter periods would reveal passing fluctuations and even possible deviations from these general trends.

These significant high rates of increase in per capita product meant that during the process of modern economic growth such rates were higher than those known in any previous period in the history of mankind. An (inevitably very rough) estimate for previous periods leads to an average value similar to today's average value for low-income countries at the very beginning of modern economic growth some 250 years ago, and to a value clearly below today's value for the less developed countries of Eastern Africa some 10000 years ago, when no human society had yet experienced the Neolithic revolution. It is also reasonable to maintain that when human societies were exclusively of the hunting-gathering type, per capita product did not suffer any significant changes. So, throughout most of human existence, the average standard of living stagnated. The rise between 10000 years ago and 250 years ago was almost certainly lower than the rise between 250 years ago and the early 21st century.

Of course, this huge sustained increase in the average standard of living meant that there was a sustained increase in the available amounts of goods and services, far exceeding the significant growth of population which usually accompanied modern economic growth. The Appendix presents detailed data on the evolution of gross domestic product and per capita gross domestic product for the world as a whole, the main world economic powers and European countries.

Sustained economic growth and consequently the sustained increase in the average standard of living meant that a rise of such magnitude, despite being disturbed by short-term fluctuations, evolved along an upward path and that such fluctuations never led to an average per capita product similar to the starting level.

1.1.1. Factors involved in the increase in the average standard of living

We stated above that per capita product is usually accepted as an indicator of the average standard of living [see box 1.3]. On the other hand, per capita product (broadly defined as the ratio of total product to total population) can be separated mathematically into two factors with relevant economic meaning, as follows:

product / total population = (product / labour force) X (labour force / total population)

The relevant question is which of the two factors – labour productivity (broadly defined as the value of goods and services that on average each active economic agent can produce during a

defined time span) or the activity rate (broadly defined as the number of active workers in relation to the total population) – is determinant in explaining the increase in per capita product. The answer is clear: over the long run, labour productivity has been the decisive explanatory factor for the huge sustained increase in per capita product. Nonetheless, it is worth examining very briefly how the quantity of human resources employed in economic activities has developed during the period of modern economic growth.

Box 1.3 - Indicators and proxy variables

Economic history seeks not only to describe, explain or understand phenomena, but also to measure their behaviour.

Ideally, phenomena may be quantitatively assessed by means of indicators that statistically describe their measurable properties. This is the case, for instance, with the use of per capita gross domestic product as an indicator of the standard of living. Of course, it is possible to bemoan the fact that the indicator has only a single dimension. But this is just the price of simplicity.

It often happens, however, that it is impossible to devise an adequate indicator, or to gather information about its evolution. Then, proxy variables, i.e. variables whose behaviour over time is economically and statistically correlated with the behaviour of the phenomenon to be studied, may be useful, in order to replace more direct indicators.

Many different (economic and non-economic) proxy variables have been used by economic historians to study industrialization, economic growth and living standards. Coal consumption, length of railway constructed, education, demographic variables, namely child mortality or life expectancy, and, more recently, anthropometric variables, namely height and body mass indexes, are well-known examples of such variables.

1.1.2. The quantity of human resources employed in economic activities

The quantity of human resources used in economic activities at a given moment and in a given region is a function of several variables, namely:

a) The age and sexual structure of the population, which is naturally a function of demographic factors.

b) The habits relating to the occupation of the different age and sex groups involved in economic activities, which is naturally a function of cultural factors.

c) The business cycle situation, influencing different rates of unemployment by region and period, but, by definition, with no structural effects.

Briefly, it is reasonable to state that:

a) During some earlier phases of modern economic growth, the quantity of human resources employed relative to the total population remained stable as the variables mentioned above evolved in opposite directions: there was an increase in the proportion of adults of an active age, male activity rates remained stable, female activity rates decreased, and working hours may have increased only slightly or even stagnated.

b) During more recent phases of modern economic growth, the quantity of human resources employed relative to the total population clearly decreased: there was a decrease in the proportion of adults of an active age, a stabilization of male activity rates and a decrease in working hours, which were not counterbalanced by the increase in female activity rates.

So, although human resources increased quantitatively and contributed to the increase in total product, the average effort of human beings was not the cause of the apparent increase in the average standard of living, as table 1.2 shows.

Table 1.2 – Human resources
A – Total employment

years	USA		Italy		Japan		Great Britain	
	employ-ment mid-years, '000s	annual growth rate %	employ-ment mid-years, '000s	annual growth rate %	employ-ment mid-years, '000s	annual growth rate %	employ-ment mid-years, '000s	annual growth rate %
1870	14 720		13 770		18 684		12 285	
1890	24 970	2.68	15 391	0.56	20 305	0.42	14 764	0.92
1913	38 821	1.94	17 644	0.60	25 751	1.04	18 566	1.00
1929	47 915	1.32	19 016	0.47	29 332	0.82	18 936	0.12
1938	44 917	-0.72	19 287	0.16	32 290	1.07	20 818	1.06
1950	61 651	2.67	18 875	-0.18	35 683	0.84	22 400	0.61
1960	69 195	1.16	21 059	1.10	44 670	2.27	24 225	0.79
1973	86 838	1.76	22 708	0.58	52 590	1.26	25 076	0.27
1998	132 953	1.72	24 343	0.28	65 141	0.86	27 121	0.31

B – Hours per person

years	USA		Italy		Japan		Great Britain	
	hours per person mid-years	annual growth rate %	hours per person mid-years	annual growth rate %	hours per person mid-years	annual growth rate %	hours per person mid-years	annual growth rate %
1870	2 964		2 886		2 945		2 984	
1890	2 789	-0.30	2 714	-0.31	2 770	-0.31	2 807	-0.31
1913	2 605	-0.30	2 536	-0.29	2 588	-0.30	2 624	-0.29
1929	2 342	-0.66	2 228	-0.81	2 364	-0.56	2 286	-0.86
1938	2 062	-1.40	1 927	-1.60	2 391	0.13	2 267	-0.09
1950	1 867	-0.82	1 997	0.30	2 166	-0.82	1 958	-1.21
1960	1 795	-0.39	2 059	0.31	2 318	0.68	1 913	-0.23
1973	1 717	-0.34	1 612	-1.87	2 042	-0.97	1 688	-0.96
1998	1 610	-0.26	1 506	-0.27	1 758	-0.60	1 489	-0.50

C – Productivity

years	USA		Italy		Japan		Great Britain	
	product-ivity $US 1990 per hour	**annual growth rate %**	**product-ivity $US 1990 per hour**	**annual growth rate %**	**product-ivity $US 1990 per hour**	**annual growth rate %**	**product-ivity $US 1990 per hour**	**annual growth rate %**
1870	2.26		1.03		0.46		2.61	
1913	5.12	1.92	2.09	1.66	1.03	1.89	4.40	1.22
1929	7.52	2.43	2.89	2.05	1.78	3.48	5.54	1.45
1938	8.64	1.55	3.79	3.06	2.19	2.33	5.98	0.85
1950	12.66	3.23	4.28	1.02	2.03	-0.63	7.86	2.30
1973	23.45	2.72	15.58	5.78	11.15	7.69	15.92	3.12
1998	34.55	1.56	27.90	2.36	22.54	2.86	27.45	2.20

Source: Maddison, 1995 and Maddison, 2001.

1.1.3. The quantity and quality of productive resources employed in economic activities

To explain the increase in labour productivity during modern economic growth, we have to examine the quantitative and qualitative evolution of the different types of productive resources (or capital in a broad sense), namely natural resources, human resources and produced resources (or capital in a narrow sense) and the ways in which they are combined.

As far as natural resources are concerned, their quantitative availability has increased in spite of depletion costs[1]. Since the beginning of modern economic growth, three new spaces have been explored by man, namely Antarctica, the Earth's atmosphere and the interplanetary space, whose economic significance has only recently became apparent. It is highly likely that they will become much more important in the future.

On the other hand, better knowledge and the ability to explore the previously known spaces were basically the consequence of better available produced resources. In this context, it is pertinent to underline the effect of the increasing degree of integration of the relevant economic spaces, which allowed for a more efficient use of each region's natural resources and was a consequence of decisive improvements, in both quantitative and qualitative terms, in transport and communication facilities.

Anyway, it is reasonable to say that the increase in the availability of natural resources has had some positive effects on the increase in the productivity of human resources, although the ratio of natural resources to human resources has decreased throughout the course of modern economic growth. The same may not be said, however, if we consider the quality of the available natural resources. Actually, modern economic growth has increased the quantity of products which are not

1 This refers to the quantitative depletion of natural assets by economic activities. The depletion of iron ore deposits is an example of this type of environmental cost.

integrated into the natural cycles of our planet and has led to processes that now threaten basic natural structures and mechanisms. As a result, degradation costs[2] have been increasing significantly. Note, however, that the fact that substitutes have been produced for several natural resources has, obviously, reduced their level of importance.

As stated above, the quantity of human resources that were available did not increase in relation to the total population, but their productivity rose thanks to indisputable increases in their quality. Education[3] and on-the-job training have been essential in improving the quality of produced resources and finding the most efficient ways of combining productive factors. Actually, sustained economic growth is the result of an "extended application of science to problems of economic production" (Kuznets, 1966), and this calls for the creation of a stock of human knowledge that is embedded in produced resources and in books and no longer in the skills of the worker. It is very difficult to measure these developments from available data. To obtain indirect information about it, data are often used that relate to the ratio of the literate population to the total population: the literacy rate. The fall in morbidity during working age was also a positive element as it reduced absenteeism and raised the efficiency of the productive effort.

Larger quantities of produced resources were the result of the joint effects of the increased ratio of investment to total product (to be explained in section 3 below) and the increased growth of total product itself. These facts compensated for any increase in the depreciation rate[4] of the available produced resources. However, in the absence of any technical progress, the accumulation of physical capital would have been modest, rising according to capital depreciation and the increase in the labour force (Maddison, 1995). The decisive incentive for capital accumulation has been science-based technological innovations and the consequent improvement in the quality of produced resources, which have brought new products and more efficient methods of production.

2 This refers to the qualitative deterioration of the natural environment as a result of economic activities. Technically, such costs include prevention, repercussion and restoration costs. The environmental damage caused by the discharge of waste products is an example of this type of environmental cost.

3 Economic historians in the early 1980s (Easterling, 1981, Cameron, 1985, Sandberg, 1982) continued the work of other economists in the 1960s (Schultz, 1961, Bowman, Anderson, 1963) and explored long-term approaches to the relationship between education and economic growth. A literacy threshold of 30-40% of the adult population seems to be a necessary condition to sustain growth, and formal education of some sort seems indispensable to both use and disseminate science-based technology and to allow for converging processes of growth.

4 Physical capital suffers a depreciation in value during its lifespan, because of wear-and-tear or obsolescence. The rate of depreciation is the ratio of the depreciation in value to the actual value at a given period of time.

1.1.4. Production functions

Production functions [see box 1.4] have changed during the course of modern economic growth with remarkably positive effects in terms of the productivity of human resources. Such changes have been a direct consequence of both technological and organizational innovations. As for the latter, in very broad terms, four main aspects seem to have been decisive: i) mass production in close relation with the scale of operations, profiting from the so-called increasing returns to scale[5]; ii) standardization (of instruments and industrial processes) in close relation with the interchangeability of resources[6]; iii) more effective forms of business organization improving the decision-making processes of organizations, including instruction transmission and control devices; iv) incentives to efficient, hard work through differentiated material stimuli or other methods.

1.1.5. Institutional factors

If the impulse to sustained growth is provided by major technological innovations, their adoption and dissemination requires major institutional changes, at both a national and an international level, in the sense of new legal, social and cultural rules that shape the functioning of organizations and of society as a whole. These new rules established new arrangements that have framed and stimulated the cooperation among people and have determined proper "social capabilities" (Abramovitz, 1986). They range from broad cultural aspects, such as secularism and egalitarian values, to laws, such as the definition of property rights, or the enforcement of contracts, to new relations between social and economic groups (North, 1990).

Special attention must be paid to several costs relating to the exchange process, which are heavily influenced by the institutional framework and are generally called transaction costs. These include: (i) the implicit costs connected with capital movements; (ii) information costs; (iii) the costs that derive from the redistribution of the risks of economic activity; (iv) the costs related to the honouring of contracts. Economic policy in a broad sense, which governments define and try to implement, has been responsible for much of the effectiveness (or ineffectiveness) of the institutional context. Exogenous ideologies and the so-called international economic order have also been relevant institutional determinants of economic growth.

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5 In many productive processes, when all inputs are multiplied by a given figure, the output is multiplied by a higher figure – or, conversely, unit costs are reduced.

6 Modern economic growth induces complex transformation processes, not only to produce commodities, but also to produce resources, namely physical capital. This means, for instance, that machines are also produced by machines, allowing for the fact that in the event of any of its parts, however small, deteriorating, it is easy and relatively cheap to substitute the damaged piece.

Box 1.4 - Production functions

The production function of a firm shows, as a matter of technology, how the production of its output depends upon the amounts of its input factors (resources) – actually the services of the input factors that it buys. In algebraic form, this function can be expressed as:

$$q = f(l, k, n, \ldots),$$

where q is the quantity of output that can be produced and l, k, n, ... are the quantities of the different resources that are used.

In aggregate terms, input factors are usually referred to as labour, capital and natural resources. In practice, many different types of labour (depending on the type and degree of the worker's qualification and ability), capital (depending on the type and technological sophistication of the equipment used) and natural resources (depending on the location, level of water supply, natural fertility, etc. of the land) are available in the factor markets, allowing for many different combinations of (quantities of) inputs and exhaustive decisions as to which combination to use.

In the short run, the quantities of many factors are supposed to be held constant by the firm. In the long run, all factors are supposed to be variable. The special case of a single variable factor may be used to introduce one of the most famous laws in economics, namely the so-called law of diminishing returns. This states that if additional quantities of a variable factor are combined with constant quantities of the other factors, output will rise, but usually less than proportionally to the increase in the quantity of the input factor. The law also holds good in the case of multiple variable factors, but the mathematical formulation is a little more complicated: the Jacobian vector of the production function is strictly positive and its Hessean matrix is negative-definite.

More technical and sophisticated analyses to identify and assess the causes of economic growth, namely those that may be quantified and fitted into a statistical model, have been developed by economists and economic historians in the context of the so-called growth accounting approach [see box 1.5].

Box 1.5 - Growth accounting

Economic research into the performance of national economies has relied on statistical records of long-term economic growth. It has attempted to identify and assess its causes, disentangling theoretical and statistical correlations between output and such variables as labour force, stock of capital, natural resources, technical progress, scale economies, foreign trade – the so-called "proximate" causes, in opposition to "ultimate" causes of the institutional type, which are almost impossible to quantify and fit into statistical models, and so are more open to disagreement between economists and historians (Maddison, 1991).

One of the approaches to the empirical analysis has been the fitting of aggregate production functions. E. F. Denison is considered the founder of growth accounting after his famous major study on the economic growth of nine Western countries in the period 1950-1962 (Denison, 1967). He disentangled the causal factors separating the physical factors of production (taking into account qualitative aspects – i.e. education and training – in order to assess the contribution made by the labour force) from a residual factor (productivity), which he subdivided into innovations (both technological and organizational), allocation of resources, economies of scale and caching-up opportunities.

Many other empirical analyses followed, using different types of production functions and other subdivisions of the residual factor. They all show that physical factors alone account for only a relatively small proportion of the explanation for output growth.

The following table presents some of Denison's original results.

Sources of economic growth 1950-1962

Item	USA	Italy	Japan	Great Britain
rate of growth = (1) + (2)	3.32	5.60	8.81	2.38
total factor input (1) = (a) + (b) + (c)	1.95	1.66	3.95	1.11
labour (a)	1.12	0.96	1.85	0.60
employment	0.90	0.42	1.14	0.50
hours of work	-0.17	0.05	-0.21	-0.15
age-sex composition	-0.10	0.09	0.14	-0.04
education	0.49	0.40	0.34	0.29
residual	0.00	0.00	0.02	0.00
capital (b)	0.83	0.70	2.10	0.51
inventories	0.10	0.12	0.73	0.09
non-residential structures & equipment	0.43	0.54	1.07	0.43
housing	0.25	0.07	0.30	0.04
international assets	0.05	-0.04	0.00	-0.05
land (c)	0.00	0.00	0.00	0.00
productivity (2) = (d) + (e)	1.37	3.94	4.85	1.27
advances in knowledge (d)	0.76	1.30	1.97	0.79
improved allocation of resources (e)	0.29	1.42	0.95	0.12
contraction of agricultural inputs	0.25	1.04	0.64	0.06
contraction of non-agricultural self-employment	0.04	0.22	0.30	0.04
reduction of international trade barriers	0.00	0.16	0.01	0.02
economies of scale	0.36	1.22	1.94	0.36
growth of national and local markets	0.36	0.62	1.06	0.27
income elasticity	0.00	0.60	0.88	0.09
various	-0.04	0.00	0.00	0.00

Figures in percentages.
Source – Denison, 1967.

To sum up, the increase in labour productivity during modern economic growth has been the outcome of four main types of innovations:

– geographical innovations, which have raised the quantity of available natural resources through the use of new spaces, or have allowed a better use of resources thanks to the deeper economic integration of previously known spaces;

– technological innovations, which have created produced resources of higher quality, allowing the same output to be produced with fewer inputs, or more output to be produced with the same quantity of inputs;

– organizational innovations, which have transformed production functions, allowing the same output to be produced with fewer inputs, or more output to be produced with the same quantity of inputs;

– institutional innovations, which have established the social capability needed to adopt, adapt and disseminate science-based innovations.

Note that these different types of innovations tend to occur simultaneously, as the effective use of one of them is usually dependent on the others. On the other hand, if the 'extended application of science to problems of economic production' is the impulse to modern economic growth, we must include in the term "science" both the technological sciences and the social or human sciences.

From another point of view, it must be stressed that the relative importance of different factors for modern economic growth varies from place to place (that is to say, according to the national case under consideration), and from period to period (that is to say, according to the phase of modern economic growth under consideration).

1.2. The transformation of the economic structure

The transformation of the economic structure is usually analysed from four different perspectives: the sectoral origin of product and the sectoral use of resources; the functional distribution of income; the personal distribution of income and wealth; the composition of product according to its uses.

We shall briefly look at the first three perspectives to stress the main trends. As for the last perspective, it will take us the bulk of this text to examine this factor, which will therefore be dealt with in the course of the following sections.

1.2.1. The sectoral origin of product

The study of economic activities in modern economies and even in traditional economies usually involves the following classification of economic sectors:

– a primary sector (agriculture), which includes predatory activities, namely fishing (excluding mining), and agriculture (including cattle-breeding);

– a secondary sector (industry), which includes mining and manufacturing;

– a tertiary sector (services), which includes the production of different types of services, namely social overhead services (transport and communication and public utilities – education, security, defence, justice, welfare services) and business services (trade, finance, professional services).

The relative importance of these sectors during modern economic growth shows the following trends:

a) During its early phases, the process usually referred to as industrialization took place, corresponding to a significant decline in the relative importance of the primary sector in favour of industrial activities, while services either stagnated or increased only slightly. Manufacturing industries clearly became the main origin of product.

b) After a considerable time, and most particularly after World War II, the process usually referred to as 'tertiarization' took place, corresponding to a significant increase in the relative importance of services, which became responsible for the majority of GDP. The share of agriculture continued to decrease, and industry also lost most of the importance it had acquired during industrialization[7].

These trends in the composition of the net domestic product can be clearly seen in the case of the first industrialized country, Great Britain (Table 1.3).

Table 1.3 – Composition of the net domestic product in Great Britain, 1688-2001

year	1688	1770	1801	1851	1891	1931	1961	2001
agriculture	40	45	33	20	9	4	4	1
industry	21	24	24	34	41	28	38	26
services	39	31	43	46	50	68	58	73

Source: Mathias, 1989: 18 (until 1851); Toninelli, 2006: 601 (1891-1961); Eurostat (2001).

Later the structure of the net domestic product also changed, following the same trend, in the countries that industrialized during the 19th century (Table 1.4).

7 Some processes of modernization, which largely took off during the third quarter of the 20th century in some Latin American economies on the periphery of the world economy, show a somewhat different trend: a process of 'tertiarization' became apparent in the early phases of modern economic growth, while industrialization was comparatively slow.

Table 1.4 – Composition of the net domestic product in Germany, France, Italy and the USA, 1850-2001

Germany	1850	1895	1960	2001
agriculture	47	31	6	3
industry	21	38	46	30
services	32	31	48	67

France	1856	1896	1962	2001
agriculture	46	34	9	3
industry	37	40	39	25
services	17	26	52	72

Italy	1869	1881	1961	2001
agriculture	50	47	15	4
industry	15	17	39	32
services	35	36	46	64

USA	1869	1889	1960	2001
agriculture	22	14	4	2
industry	22	27	36	26
services	56	59	60	72

Source: Toninelli, 2006: 601 (1891-1961); Eurostat (2001).

1.2.1.1. Causes of the trends in the sectoral origin of product

We will not go into further details, namely the main trends within each of the three major sectors. Nonetheless, it is worth underlying the two main causes of those trends.

The most important mechanism for explaining structural changes has to do with the different income elasticity of the demand[8] for the various goods and services. Changes in the average per capita income (or in the distribution of total income) induce differentiated percentage changes in the demand for the goods and services supplied by the different sectors, according to the different levels of urgency of different human needs. For instance, for a relatively high income level, a proportional change in income will probably induce a much lower proportional change, if at all, in the demand for foodstuffs (mostly dependent on agriculture), while some manufactured products (such as cars, TV sets, computers, etc.) and services (such as tourism, cultural services, etc.) will be expected to increase proportionately much more than income.

8 Technically, the income elasticity of demand is the proportional change in the quantity purchased divided by the proportional change in the income which induced it.

A second mechanism in the explanation of structural changes has to do with the different sectoral impacts of innovations. On the one hand, there is a direct impact on supply, as new consumer goods and manufactured productive resources begin to appear. On the other hand, there is a double indirect impact on demand. New patterns of life, namely urbanization, imply new needs that were not felt in the countryside. Relative prices change with innovation, and demand changes accordingly, as, in most cases, innovations reduce the price of certain goods and stimulate their consumption, as opposed to the consumption of alternative goods.

1.2.1.2. The sectoral use of resources

The different sectors use different types of resources in very different proportions. Broadly speaking, the primary sector consumes mainly natural resources and the secondary sector consumes mainly produced resources, while the tertiary sector consumes mainly human resources.

However, changes in the trends of the sectoral use of resources, especially human resources, were similar to the transformations taking place in the sectoral origin of product. Table 1.5 shows the main trends. Industrialization implied a higher concentration of resources in the secondary sector and tertiarization has involved an increasing share of resources used in the service sector.

Table 1.5 – Structure of employment

Agriculture	USA	Japan	Italy	Great Britain
1820	70.0	n.a.	n.a.	37.6
1870	50.0	70.1	62.0	22.7
1913	27.5	60.1	55.4	11.7
1950	12.9	48.3	45.4	5.1
1973	4.1	13.4	17.8	2.9
1992	2.8	6.4	8.1	2.2

Industry	USA	Japan	Italy	Great Britain
1820	15.0	n.a.	n.a.	32.9
1870	24.4	n.a.	23.0	42.3
1913	29.7	17.5	26.6	44.1
1950	33.6	22.6	28.6	44.9
1973	32.3	37.2	38.1	41.7
1992	23.3	34.6	31.7	26.2

Services	USA	Japan	Italy	Great Britain
1820	15.0	n.a.	n.a.	29.5
1870	25.6	n.a.	15.0	35.0
1913	42.8	22.4	18.0	44.2
1950	53.5	29.1	26.0	50.0
1973	63.6	49.4	44.1	55.4
1992	74.0	59.0	60.2	71.6

Source: Maddison, 1991 and Maddison, 2001.

Agriculture = agriculture + forestry + fishing
Industry = mining + manufacturing + electricity + gas and water supply + construction
Services = residual

1.2.2. The functional distribution of income

Total income may be classified by its origin under four main items, which have shown the following evolution throughout the process of modern economic growth:

a) Wages, or income from the ownership of human resources, which show an increasing trend, reflecting an ever greater importance of human resources, particularly in terms of their quality.

b) Interest, or income from the ownership of produced resources, which shows an increasing trend, reflecting an ever greater importance of produced resources (actually a slight increase thanks to the high incidence of capital-saving innovations).

c) Rents, or income from the ownership of natural resources, which show a decreasing trend, reflecting a lesser importance of natural resources, especially since industry has been manufacturing surrogates for some of them (i.e. textile fibres).

d) Profits, or income from entrepreneurial activities, actually the difference between the market value of the goods and services, whose production they have organized, and its costs. This item shows a tendency to stagnate.

Naturally, these are general trends. National cases show interesting differences in the relative behaviour of each item, but it is impossible to go into more detail here.

1.2.3. The functional distribution of income

The personal distribution of production output is dependent on three main factors:

(i) the personal distribution of the ownership of different types of resources or wealth and entrepreneurial capabilities;

(ii) the functional distribution of income;

(iii) state intervention through a differential incidence of taxes and subsidies.

1.2.3.1. The ownership of different types of resources

Most natural resources, with the very important exception of land, were free and not privately owned before modern economic growth. Modern economic growth meant a decreasing trend in the number of non-scarce natural resources, as a direct effect of population growth and regional concentration. However, the distribution of property became more even, firstly because there was a reduction in the asymmetries of the distribution of land, and secondly because there was an increase in the regulations concerning access to natural resources.

As for the distribution of human resources (including entrepreneurial capabilities), these are all scarce and privately owned. Their distribution is quantitatively quite even, but more uneven in qualitative terms, more because of differences in education and training than because of natural endowments. In the course of modern economic growth, two phases may be identified: during the 19th century, inequalities in the distribution of the quality of human resources increased (though in many parts of the developed world they were already decreasing by the end of the century); after the First World War, there was a general trend towards a decrease in inequalities as a result of both wider access to formal education (correlated with the positive behaviour of the average standard of living) and an increasing investment by organizations, namely firms, in on-the-job training.

As far as produced resources are concerned, they are also scarce and owned either individually or by organizations. Their distribution has always been rather uneven and this unevenness has been increasing in the world as a result of important inequalities in terms of regional development.

1.2.3.2. State intervention

State intervention in the personal distribution of income passed through two different phases. At first, in the 19th century, it was neutral, at least in its purpose and design. During most of the 20th century, it aimed at the redistribution of income in favour of low-income earners, mainly through progressive direct taxation on income. The effectiveness of this policy varied significantly according to different national institutional contexts. Socialist centrally planned economies interfered in a much more complex way, using specific means of intervention. These aspects will be referred to again in the sections on demand structure.

1.2.3.3. Inequality and poverty

Modern economic growth implied an increase in the unequal distribution of personal income in the world, an inevitable consequence of the relatively slow spread of the process. The same has happened in the less developed regions. As for the developed economies, inequality has decreased in the long run, although situations of crisis and periods of recession and especially of depression may have led to an increase in inequalities and in relative and absolute poverty. In such situations, unemployment, financial and external disequilibria, and social unrest often arise. In such phases, the incidence of unemployment is unevenly distributed by sector, gender, education and social stratum. Financial crises and greater difficulties in terms of social cooperation reduce the state's capacity to intervene.

The opinion of Kuznets on personal distribution, expressed in the 1950s, was that "inequalities developed according to the following pattern: widening in the early phases of economic growth when the transition from the pre-industrial to the industrial civilization was more rapid; becoming stabilized for a while; and then narrowing in the later phases".[9] In the USA, Great Britain and Germany, it is in fact possible to distinguish the trend towards a higher equality, "particularly noticeable since the 1920s, but beginning perhaps in the period before the First World War".[10] The scarcity of data for earlier periods makes the analysis of income distribution over the long term very difficult. However, Kuznets' hypothesis was recently confirmed.[11] In the countries which industrialized during the 19th century, the 10 per cent of the population with higher incomes received 40-50 per cent of the annual income in pre-industrial societies. Their share increased to over 50 per cent in the early phases of

9 Kuznets, 1955: 18.
10 Kuznets, 1955: 4.
11 Williamson, 1991.

modern growth; it was reduced later to less than 40 per cent. The increase in inequality in the early days of modern economic growth seems explainable by the fact that "agriculture liberated unskilled labour in higher quantities than those absorbed by industry".[12] The formation, on the other hand, of poles of industrial growth with high levels of productivity led to increasing incomes for workers and entrepreneurs. Thus the gap between the income of agricultural areas and that of industrial areas increased. From this, there derived an increase in inequality.

1.3. The transformation of the economic system

Economic activity is based on organizations, usually called economic agents, that establish relations between one another in order to perform economic activity. The characteristics of economic agents and the relations between them are the basic elements for defining the way in which the economy is organized. The main aspect of the relations between economic agents is the way they coordinate their economic plans, so that the production and consumption decisions of different agents do in fact match one another. These different forms of coordination define what is usually referred to as the economic system.

Modern economic growth implied significant transformations in the characteristics of economic agents. The main trend was towards their greater specialization in terms of functions. As a matter of fact, before modern economic growth, most people lived within the framework of a (sometimes extended) family, which was simultaneously a consumption unit and a production unit. Nowadays, the situation is completely different. The typical situation is for each person to have a double link: one link to a (usually nuclear) family, which is mainly a consumption unit; another link to a firm, which is mainly a profit-seeking production unit. The separation of residence and workplace is one of the hallmarks of the new economic organization.

The existence of other types of economic agents should not be forgotten. The main one is the state, which may be defined as a producer of public goods (more details will be provided on this question in the following sections). Also significant is the development of private non-profit seeking units, such as associations, trade unions, political parties, sports clubs, etc..

Firms have grown in average size and their legal framework has changed considerably, tending towards an increase in the relative importance of corporations and a greater concentration of their ownership and control. The state has grown in size and complexity and expanded into new areas, namely education, health and social security. These aspects will be dealt with in more detail later on.

12 Williamson, 1991: 35.

The relations between these economic agents have become more and more complex. Self-consumption, i.e. production for use within the same economic unit, has decreased. The increased sectoral specialization of production units has become linked to the phenomenon of outsourcing, i.e. a higher demand of productive services from outside the production unit.

This has implied new schemes to coordinate the plans of different economic agents. Before modern economic growth, routine schemes, i.e. the systematic repetition of the production and consumption plans already practised in the past, were a major part of economic life. Market schemes, i.e., the coordination of the plans of economic agents by means of free market prices and budget constraints, and command schemes, i.e. the coordination of the plans of economic agents by means of imperative intervention by some authority (usually the state) also played some role in economic life. Modern economic growth went hand to hand with the spread of market schemes to a dominant position in the economic system, so that contemporary economies are commonly described as market economies. The development of market economies was usually linked to the development of a capitalist economy, that is to say an economy dominated by the private ownership of productive units and productive resources.

However, during a significant part of the 20th century, the dominance of market economies was challenged in some countries (although not in the world economy as a whole) by the spread of centrally planned economies, in other words command economies where coordination is based on a detailed imperative macro-plan issued by the state.

These centrally planned economies belonged to two different groups:

– those linked to the attempt to develop a socialist economy, i.e. an economy dominated by the public ownership of productive units and productive resources;

– war economies, where planning was linked to a relatively long war period, especially in the case of the First and Second World Wars.

1.3.1. Socialist economies

The Russian revolution of the Autumn of 1917 and the German defeat of the Autumn of 1918 enabled socialist parties to take power for the first time in capitalist countries. Although the original project of these parties – the redistribution of income and wealth, the nationalization of the means of production and the central planning of the economy – were common to communist and social-democratic parties alike, their practical action was completely different.

Social-democratic parties became the supporters of the ideals of the so-called welfare state, through the development of social security systems, the organization of significant sectors of production under public ownership (mainly in the form of strategic activities), and the preparation of indicative plans for the economy. They did, however, retain democratic regimes, and did not attempt

either full nationalization or the imperative planning of economic activity. As a consequence, their achievements always seemed unstable, threatened by the likelihood of a change in the parliamentary basis of social-democratic governments. In some senses, however, certain novelties introduced by social-democratic governments became structural characteristics of the capitalist system. The attack on these reforms by conservative opponents eventually weakened the original character of the social-democratic blueprint, but it did not eliminate everything that had been built on its basis.

Communist regimes, on the contrary, soon became non-democratic, and promoted a general nationalization and imperative planning of economic activities. This was the direction taken by the Soviet Union during the interwar period. Moreover, during the third quarter of the 20th century, this type of economic system spread to a number of countries, amounting to almost one third of the world's population, especially in Eastern Europe and China. However, its importance plummeted during the late 1980s and early 1990s[13]. It was no longer a significant feature of the world economy at the beginning of the 21st century. The existence of centrally planned economies gave specific characteristics to the process of modern economic growth in those countries that adopted such an economic system. Most of these characteristics will be dealt with in the following sections.

1.3.2. War economies

Although, in war economies, private property of the capitalist type remains formally important, state intervention largely decides what is to be produced, how and for whom. State intervention is presented as an effective device for winning the war. To achieve such a goal, resources, that is to say labour, raw materials, transport and food, are allocated on the basis of centralized control. This implies planning, rationing and control over prices, wages, profits and financial flows.[14]

Naturally, particular national cases reveal at the same time both basic similarities and differences. Two main factors explain the fundamental differences: a) national traditions of state intervention in the economy; b) the strategic situation at the world level.

National traditions of state intervention in the economy implied that war control of the economy was easily accepted in some countries, such as Germany and Russia, and was, on the contrary, delayed as long as possible in countries such as Great Britain and the United States of America. Extreme cases were those of Germany and the Soviet Union during the Second World War, in

13 Berend, 2006.

14 All this happened during the usually brief European conflicts in the period between the Napoleonic wars and the First World War. In these cases, during the 19th century, belligerent countries were not fully mobilized and economic policy during wartime had mainly financial goals.

which previous attempts at central planning under the Nazi and communist regimes made the controls imposed by the war economy much easier to introduce,[15] and that of the United States during the First World War, on the other hand, which, as a consequence of the brief period of belligerence, was able to avoid almost all forms of public control of the economy.

The strategic situation at the world level may influence the availability of external supplies and imply controls of a different character. As a rule, the United States, which was not subject to direct military pressure, was able to maintain its usual internal and external supplies (for instance, from Latin America). Great Britain (and France during the First World War) were able to obtain supplies from both the United States and their colonies, although their usual channels of communication were subject to a strong military pressure (submarine war), and this implied a particular form of intervention (naval convoys). Germany and Russia, cut off from their usual trade relations with the rest of the world as a consequence of the blockade imposed by their enemies, had to adopt extreme measures. Germany, for instance, deported workers from occupied areas, in both world wars, and took possession of the gold held at the central banks of occupied countries.[16]

In the following sections, we will return to the theme of war economies.

2. The structure of demand: general features

The economic transformations dealt with in the previous section have only had one meaningful purpose: to increase the satisfaction of human needs, and consequently the well-being of people.

The satisfaction of human needs is accomplished by the consumption of goods[17]. A significant part of economic activity is undertaken in order to produce goods for the direct satisfaction of human needs[18]. In national accounting terminology, these goods are said to be produced for 'final consumption'.

As already pointed out above, economic activity uses three types of resources: natural resources, which exist independently of human beings[19]; human resources, which are the very activity of human beings; and produced resources, which are themselves the result of previous economic activity. Thus, another significant part of economic activity is undertaken in order to

15 Temin, 1991.

16 Hardach, 1987; Milward, 1987.

17 In keeping with the commonly accepted procedure amongst economists, we use the term 'goods' to mean both material goods and services.

18 Of course, to quote the Holy Bible, 'Man shall not live by bread alone' (Matthew: 4, 4). However, this quotation also means that the very existence of human beings and the satisfaction of human needs depends on the availability of 'bread', which may be considered here as a symbol of all economic goods.

19 However, their quantity and quality may be affected by the (economic) activity of human beings, as explained in the previous section.

produce produced resources, that is to say to produce goods only for the indirect satisfaction of human needs. In national accounting terminology, these goods are said to be produced for 'investment'.

Investment consists of two types of goods. One type is formed by durable goods used as either infrastructures (roads, buildings, etc.) or instruments (tools, machinery, etc.). In national accounting terminology, investment in this type of goods is called 'formation of fixed capital'. Another type is formed by non-durable goods to be used in what is called intermediate consumption, that is to say they are to be consumed in the very process of production (raw materials, fuel, semi-processed materials, etc.). In national accounting terminology, investment in this type of goods is called 'changes in inventories'. Of course, for the sake of precision, changes in inventories must also include the accumulation of finished goods still to be used in final consumption.

Note that, strictly speaking, investment during a given period must be measured as the difference between fixed capital and inventories at the end of the period and fixed capital and inventories at the beginning of the period. This gives rise to two accounting problems that are not easily solved. Firstly, even durable goods that make up fixed capital depreciate and, after their useful life, have only a scrap value. However, it is very difficult to evaluate the depreciation of fixed capital as it progresses. Thus, it is common to ignore it, and calculate the formation of fixed capital by disregarding depreciation. This leads to the existence of 'gross' (overvalued) figures for the formation of fixed capital (and consequently for investment and for the domestic product), less adequate, but much easier to calculate than the exact 'net' (correctly valued) figures. Secondly, both durable and non-durable goods may change their price during the period used for calculations. To compute the difference between the value at the end of the period and the value at the beginning of the period may lead to the overvaluing (if prices rose) or the undervaluing (if prices fell) of real (physical) investment. There are standard procedures to avoid this problem.[20]

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20 The following identities summarize the fundamental relations involved in the flows of production, consumption, investment and external relations:
stock of non-durable goods existing at the beginning of the period.
+ non-durable goods imported during the period
+ non-durable goods produced during the period
= non-durable goods used during the period
+ non-durable goods exported during the period
+ stock of non-durable goods existing at the end of the period
Note that non-durable goods include goods for intermediate consumption and goods for final consumption.
In the case of durable goods:
stock of durable goods existing at the beginning of the period
+ durable goods imported during the period
+ durable goods produced during the period
= durable goods used during the period
+ durable goods exported during the period
+ stock of durable goods existing at the end of the period
Note that durable goods include machinery and infrastructures.

Most produced goods are available for use after being self-produced (i.e. produced for consumption by the producer, a very common situation in the period of pre-modern economic growth and a somewhat rare one nowadays) or acquired in the market (which means it was produced for consumption by someone who was not its producer, the most usual situation nowadays). These are private goods. They include goods used both for private (final) consumption and for private investment. Private goods are produced to be consumed by their producers or to be sold (exchanged) in the market and bought by private users.

However, some produced goods are available for use regardless of self-production or acquisition in the market. These are public goods, in a general sense[21]. They include goods used both for public consumption and for public investment. Public goods are produced either privately or by the state to be available for public use, not to be used by the producer, nor to be sold in the market.

From a geographical point of view, produced goods may be used in the national economy in which they were produced, or in other national economies. In the second case, national accounts register such goods as an export of the producer economy and an import of the consumer economies.

These classifications of the national accounts will form the basic plan for most of this chapter. As a matter of fact, our point of departure will be the following decomposition of gross domestic product:[22]

gross domestic product
= private final consumption
+ public final consumption
+ gross private formation of fixed capital
+ gross public formation of fixed capital
+ (positive or negative) changes in inventories
+ exports - imports

Thus:
– section 3 will analyse the structure of total demand;
– section 4 will analyse the structure of private final consumption;
– section 5 will analyse the structure of private investment;
– section 6 will analyse the structure of public demand;

21 The strict concept of a public good is, however, much more complicated. See box on the subject.
22 Of course, it is possible to present a similar identity for net domestic product, deducting depreciation both from the total and from formation of fixed capital.

– section 7 will consider foreign economic relations.

3. Total demand

3.1. Main trends

As the decomposition at the end of the previous section shows, total demand equals gross domestic product. Thus, we do not need to consider here once again the evolution of total demand, because it was implicitly studied in section 1, when dealing with the phenomenon of modern economic growth. Total demand showed an absolute increase that matched the increase in production.

As to the relative importance of the various parts of total demand, there are three main trends that must be considered:

(a) A relative increase in investment as against consumption until the 1950s, followed by a relative increase in consumption as against investment, at a slower pace, during most of the second half of the 20th century in the most developed countries.

(b) A relative increase in public consumption and investment as against private consumption and investment (although, during the second half of the 20th century, there was a stabilization and even a reduction in public consumption and investment in some highly developed countries, especially in the United States).

(c) A relative increase in exports and imports, that is to say in the international flows of goods.

In this section, we will study the significance of these three trends and their main explanatory factors. Later, in sections 4 to 6, we will examine the various components of total domestic demand; foreign demand will be dealt with in section 7.

3.2. Investment and consumption

Contemporary society is often described as a consumer society, because of the high levels of satisfaction of human needs it has attained in the most developed countries of the world. Actually, during the last two centuries, increasing quantities of increasingly diverse goods have been offered, and consumed by the inhabitants of those societies where sustained economic growth has been achieved. Some views even suggest that there is a great deal of waste in the way human needs are satisfied by mass consumption in today's most developed economies. Thus, it may seem somewhat surprising to say that modern economic growth was characterized until the 1950s by a relative

decrease in consumption as against investment, as shown in table 3.1. There is, however, no contradiction in these findings. Let us see why.

The huge increase in productive capacity achieved since the mid-18th century allowed for an ever smaller proportion of total production (or demand) to be allocated to consumption without any reduction in absolute consumption. As a matter of fact, because of that huge increase in productive capacity, lower relative consumption was even compatible with a huge increase in absolute consumption.

This combination of higher absolute consumption and lower relative consumption was a possibility opened up by the significant transformations dealt with in section 1 and synthetically referred to as 'modern economic growth'. In comparison with contemporary economies, pre-modern societies had to allocate almost all their resources and productive capacity to guaranteeing the basic current material needs of human survival in a short-term perspective. And yet they lived on the edge of survival, enduring severe economic fluctuations, which actually pushed those economies repeatedly below the survival line and led to dramatic demographic consequences. Thus, in those times, with very low levels of productivity, most of the productive capacity was devoted to producing consumer – mostly agricultural – goods, whose expenditure accounted for over 80% of total demand. However, when productive capacity increased, together with sustained qualitative improvements of resources, namely as a consequence of technological, organizational and institutional innovations (including better education), output continued to rise in a sustained way and societies became better able to guarantee their basic material needs and still save increasing proportions of their annual income. Those savings added to the stock of physical productive resources (infrastructures, transport equipment, tools, etc.) of increasing quality to produce more and new goods in the future.

Thus, the relative importance of saving and investment increased as against consumption. And higher absolute and relative investment raised productivity and output, and so indirectly contributed to the absolute increase in consumption.

During most of the second half of the 20th century, there was a relative increase in consumption as against investment, in the most developed countries, as also shown in table 3.1.

Table 3.1 – Ratio of (private + public) consumption to gross domestic product

year	1870	1913	1950s	1960s	1970s	1980s	1990s
Germany	86	76	73	71	75	76	77
Great Britain	88	85	84	80	81	82	84
Italy	91	82	80	73	75	78	79
USA	81	80	82	81	80	83	83

Source: Kuznets, 1969 and Eurostat. Figures in percentages.

Although, in Europe, this new trend did not restore consumption to the levels attained in the 19th century, it still represents a significant change in the behaviour of these variables. Two facts related to this new trend must be stressed. Firstly, as will be considered in more detail in section 4, the increase in private consumption during this period was mainly directed towards durable goods and services. Secondly, although classified in standard national accounting procedures as consumption items, some of these services, such as education and health, clearly have an investment component, as they prepare better human resources for the future. Thus, it is possible to argue that, because consumption was mainly directed towards either durable goods or services with an investment component, some of the characteristics of the previous trend were preserved after the turning point. We will return to these questions below, when dealing with the explanation of the traditional trend and its respective changes.

3.3. Public and private consumption and investment

As explained in section 1, modern economic growth has been mainly connected with the development of market capitalist economies and, during most of its course, with a relatively non-interventionist approach in terms of mainstream economic thought. This might suggest a reduction of state intervention in the economy. Thus, it may seem somewhat surprising to acknowledge that modern economic growth was characterized by a relative increase in the importance of public consumption and investment as against private consumption and investment, as shown in table 3.2[23].

Table 3.2 – Ratio of public expenditure to gross domestic product

Year	1880	1913	1938	1950	1973	1992
France	11	9	23	28	39	51
Germany	10	18	42	30	42	46
Great Britain	10	13	29	34	42	5
Italy	4	4	6	12	15	18
USA	4	5	9	18	17	17

Source: Kuznets, 1969, Maddison, 1995 and Eurostat.
Figures in percentages.

There is, however, again no contradiction in these results. Let us see why.

23 Major differences in the relative importance of the public sector in different developed countries are a consequence of the different institutional structures of these economies, and, in particular, of the degree of regulation of the market economic system.

First of all, we must consider that the development of market capitalist economies was, until recently, counteracted by important forces that propelled an increase in state intervention in the economy.

The attempts to build socialist centrally planned economies played a very significant role as one of these forces, from the interwar period until the late 1980s[24]. However revolutionary they may have been, these attempts to build highly developed socialist centrally planned economies failed, as already pointed out, and may prove to be of relatively minor importance in their long-lasting consequences, since these societies endured rather radical transition processes to market capitalist economies in accordance with rather liberal blueprints.

Although less conspicuous in their immediate effects, the development of what is usually called the welfare state may prove more important in its long-lasting consequences. The welfare state also appeared during the interwar period, linked to social-democratic regimes, and later became interwoven with the Keynesian perspectives, which supported state intervention in the economy as a way of ensuring permanent full employment. Actually, in spite of the resumption of anti-interventionist ideology in the last decades of the 20th century, the demand for new public services (such as social security), and the increased demand for publicly supplied social (merit) goods (such as education and health), which had increased significantly after the Second World War in most developed countries, did not reverse its increasing trend, although the rate of growth of public expenditure has been decreasing in most countries.

Secondly, demand for traditional public goods (such as administration, in a broad sense, and defence) also increased. As we will see in section 6 below, the structural transformations of production and living conditions inherent in the process of modern economic growth had an apparent impact on the demand for traditional civilian public goods. As to the military component, it fluctuated according to the international political situation.

Thus, through the mechanisms of political decision-making, whether democratic or not, contemporary societies showed an increasing desire to use public goods.

Again, the fact that private consumption and investment fell in relative terms does not mean that it fell in absolute terms. On the contrary, an absolute increase in the use of private goods coexisted with its relative decrease, in a process similar to the one depicted above for consumption and investment (see Table 3.3).

24 It is important to remember that these attempts involved simultaneous efforts to start or consolidate processes of modern economic growth, contradicting the original socialist idea that socialist societies would develop from the most developed capitalist economies.

Table 3.3 – Use of gross domestic product

United Kingdom	private consumption	public expenditure	capital formation
1860-69	83.0	5.1	11.9
1905-14	78.4	7.1	14.5

Germany	private consumption	public expenditure	capital formation
1851-60	82.6	3.8	13.6
1901-13	67.8	7.4	24.8

Italy	private consumption	public expenditure	capital formation
1861-70	87.9	4.7	7.5
1906-15	77.9	7.9	15.3

Sweden	private consumption	public expenditure	capital formation
1861-70	86.3	4.5	9.2
1901-10	83.5	5.4	11.1

Source: Kuznets (1962): 72-3.

3.4. The international movements of goods

The absolute and relative increase in the international movements of goods is a subject that will be returned to later on, as it is one of the main themes of the last section of this chapter. Thus, all that is necessary here is to underline that, as a consequence of technological factors, such as the improvements taking place in transport, and institutional factors, including the reduction in the barriers to foreign trade, exports and imports became a much higher proportion of production than in the past, in spite of some setbacks in the 20th-century interwar period (see table 3.4).

During the last two decades of the 20th century and the early 21st century, the international trade in services presented higher growth rates than those of the international trade in goods, as a consequence of the technological, organizational and institutional innovations linked to information and communication.

Table 3.4 – Exports as a proportion of production

	1820	1870	1913	1929	1950	1973	1992
World	1	5	9	9	7	11	14
Germany	–	10	16	13	6	24	33
Spain	1	4	8	5	2	5	13
France	1	5	8	9	8	15	23
Italy	–	8	11	6	4	13	19
Great Britain	3	12	18	13	11	14	21
USA	2	3	4	4	3	5	8

Source: Maddison, 1995.
Figures in percentages.

3.5. Explanatory factors

The structural evolution of demand may be largely explained by three main factors:

(a) Preferences, i.e. a change in prevailing tastes, regardless of prices and income.

(b) Prices, i.e. a change in relative prices, regardless of preferences and income.

(c) Income, i.e. a change in the level of income, regardless of preferences and prices.

It is impossible to quantify the relative importance of these three factors precisely. However, it is likely that the order of their importance is the reverse of the one presented above.

We will frequently return to these three explanatory factors of the structure of demand in the following sections. Nonetheless, it is important to present here some general remarks about their meaning and functioning.

3.5.1. Income

Let us begin with income. Total income and per capita income have certainly increased throughout the process of modern economic growth. Once more, it is possible to say that the phenomenon of the increase in total income and per capita income was dealt with when looking at the phenomenon of modern economic growth. The point that must be stressed now is that the structure of demand depends on the level of income. When income is low, it is likely that demand is mainly directed towards goods that satisfy basic needs. When income rises, it is likely that the relative importance of the goods that satisfy basic needs diminishes, because those basic needs become relatively satiated, and the relative importance of the goods that satisfy higher needs increases, as it is possible to devote a larger part of income to them. And, of course, the specific higher needs which receive a larger part of income vary according to the level of income.

Economists analyse this phenomenon using the concept of the income elasticity of demand. The income elasticity of demand for a given good is the ratio of the relative increase of the demand for the good to the relative increase of income. The income elasticity of demand is higher than one when the demand for the good increases by a higher proportion than income. This is what happens with superior goods, which, as a consequence, increase their share of total demand. The income elasticity of demand is equal to one when the demand for the good increases by the same proportion as income. This is what happens with some normal goods, which, as a consequence, maintain their share of total demand. The income elasticity of demand is lower than one (and positive) when the demand for the good increases by a lower proportion than income. This is what happens with most normal goods, which, as a consequence, decrease their share of total demand, although they still increase their absolute demand as income rises. The income elasticity of demand is nil when the demand for the good remains the same as income rises. This is what happens with some inferior goods, which, as a consequence, decrease their share of total demand, and neither increase nor decrease their absolute demand as income rises. The income elasticity of demand is negative when the demand for the good decreases as income rises. This is what happens with some inferior goods, which, as a consequence, decrease their share of total demand, and also decrease their absolute demand as income rises. However, cases of inferior goods, especially with negative income elasticity, are quite rare[25].

Figure 3.1 depicts the typical evolution of the ratio of the demand for a given good to total demand as income increases. At very low levels of income, the ratio is very low, except for goods that satisfy very basic needs. At some level of income, the need satisfied by that good becomes the next to be satisfied, and the income elasticity of demand for that good becomes higher than one. Thus, the ratio rises. Then, as other needs and other goods take its place, the income elasticity of demand drops to a level lower than one, and the ratio decreases. Low-quality goods that satisfy very basic needs usually have a very different curve (see figure 3.2). It starts at high levels and drops very sharply as income increases, maybe even attaining a nil or negative income elasticity of demand, as other more sophisticated goods are used to satisfy the same need. These curves are known as Engel's curves, derived from the name of Ernest Engel, the 19th-century German economist (1821-1891) who first studied the evolution of demand as income varies.

25 The main examples are cheap goods that satisfy basic needs, such as corn bread or linen clothes, which are replaced, as income rises, by dearer and supposedly better goods, which satisfy the same needs, such as wheat bread or cotton clothes. Somewhat surprisingly, some of these inferior goods became normal, or even superior, goods, later on. But this must be considered a change in tastes (see section 3.5.3 below on preferences).

Figure 3.1 – Engel's curve for normal and superior goods

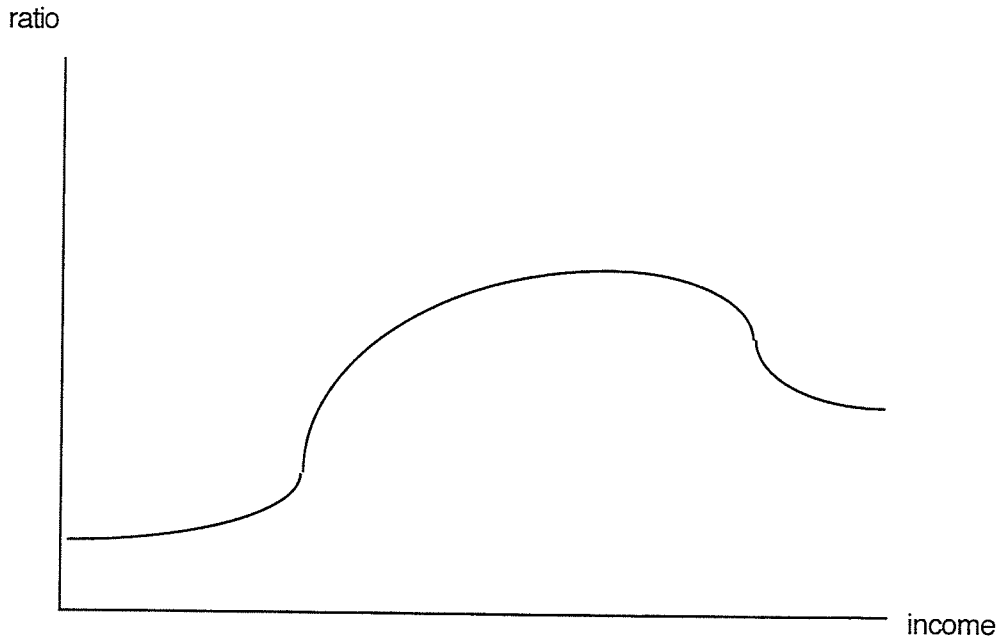
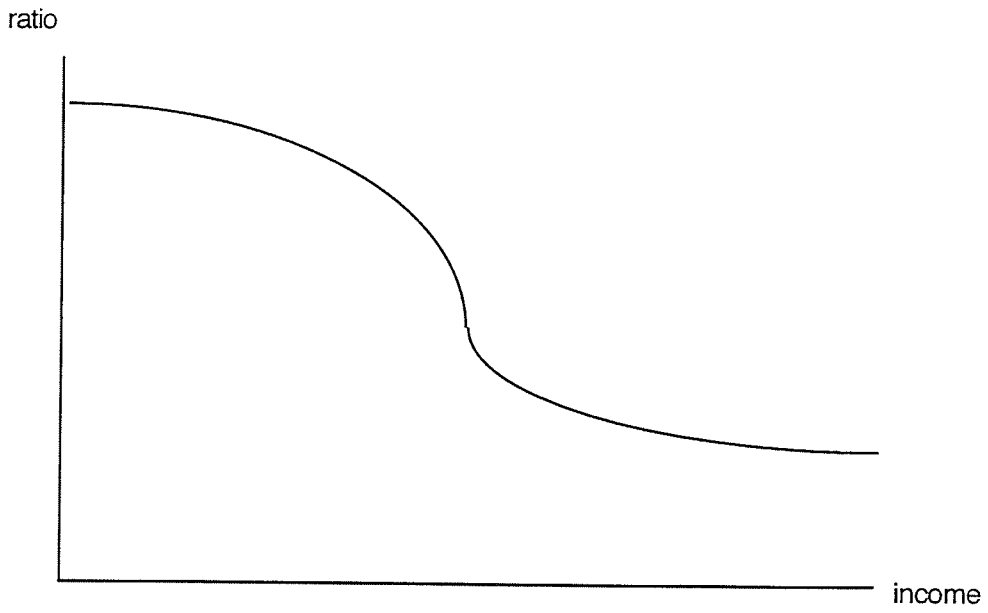


Figure 3.2 – Engel's curve for inferior goods



As far as the structure of total demand is concerned, income is important for explaining the relative behaviour of investment as against consumption, and of public consumption and investment as against private consumption and investment.

It seems fairly clear that the most basic needs (such as food, clothing, or shelter) are satisfied by the consumption of private goods (foodstuffs, clothes, houses, etc.). Thus, private goods for immediate consumption must have an overwhelming importance in the structure of demand at low income levels.

However, future consumption (which is mostly satisfied by present investment and calls for saving) and needs that are satisfied by public goods are higher needs. Thus, public consumption and investment tend to increase their share of total demand as income rises[26].

Goods of foreign origin are traditionally considered as luxuries and, thus, as superior goods. Therefore, it is also likely that their share of total demand increases as income rises. This general rule has many exceptions, mainly related to tastes, and tends to have less and less importance as the progress of transport and communications makes them better known and more accessible.

3.5.2. Prices

With income being held constant, demand is supposed to vary with relative prices. When the price of a given commodity increases, the quantity demanded tends to decrease. When the price of a given commodity decreases, the quantity demanded tends to increase.

Note, however, that the effect of a price change on total expenditure on the good is uncertain. An increase in price, coupled with a decrease in the quantity demanded, may lead to a rise in total expenditure (if the relative decrease in the quantity demanded is lower than the relative increase in price), maintain total expenditure at its current level (if the relative decrease in the quantity demanded is equal to the relative increase in price), or lead to a decrease in total expenditure (if the relative decrease in the quantity demanded is higher than the relative increase in price). On the other hand, a decrease in price, coupled with an increase in the quantity demanded, may lead to a rise in total expenditure (if the relative increase in the quantity demanded is higher than the relative decrease in price), maintain total expenditure at its current level (if the relative increase in the quantity demanded is equal to the relative decrease in price), or lead to a decrease in total expenditure (if the relative increase in the quantity demanded is lower than the relative decrease in price).

26 The rise in the share of public goods in total demand as income rises was pointed out for the first time by the German economist Adolph Wagner (1835-1917), and is currently known as Wagner's law.

Economists analyse this phenomenon using the concept of the price elasticity of demand. The price elasticity of demand for a given good is the ratio of the relative increase in the quantity demanded to the relative decrease in price, or the ratio of the relative decrease in the quantity demanded to the relative increase in price. The price elasticity of demand is higher than one when the relative change in the quantity demanded is higher than the relative change in price. This is what happens with goods with elastic demand, which, as a consequence, see their expenditure vary in the opposite direction to changes in prices. The price elasticity of demand is equal to one when the relative change in the quantity demanded is equal to the relative change in price. This is what happens with goods with normal demand, which, as a consequence, see their expenditure remain the same when prices change. The price elasticity of demand is lower than one when the relative change in the quantity demanded is lower than the relative change in price. This is what happens with goods with rigid demand, which, as a consequence, see their expenditure vary in the same direction as changes in prices.

Relative prices certainly changed a great deal during the process of modern economic growth, because relative costs also changed, mainly as a consequence of the different impact of innovations on the production of different goods. As far as the structure of total demand is concerned, it is possible to say that the relative prices of investment and foreign goods decreased. In the case of investment, this was the consequence of the fall in the interest rate, which is usually very high in traditional economies. In the case of foreign goods, their prices became relatively cheaper, mainly because of the lowering of transport prices. In the case of investment, it is reasonable to suggest that an elastic demand contributed to the increase in the share of the demand for future goods, that is to say of the demand for investment, in total demand until the post-Second World War years.

The evolution of prices in the years after the Second World War raises some doubts about its interpretation. It may be suggested that there was a change to a rigid demand for future goods, which would explain the fall in the share of investment in total demand. However, the components of durable goods and services contributing to the improvement of human capital, which have existed in the growth of private consumption over the last decades, may suggest that there was simply a change in the type of superior goods whose demand was most stimulated by the attainment of a certain level of income.

In the case of foreign goods, elastic demand seems to have been the rule until now.

The case with public goods seems to be different. Relative costs seem to have increased. Thus, we must suppose that there was a rigid demand, which contributed to the increase in the share of the demand for these goods in total demand. The absence of free market prices for these goods (the reason for this is explained in the box 3.1) makes these assumptions rather tentative.

Box 3.1 – Public goods

Most economic goods display two characteristics: the possibility of exclusion and rivalry in consumption. The possibility of exclusion means that it is possible to allow consumption only to someone who has paid for the use of the good. Rivalry in consumption means that consumption by one person prevents consumption by anyone else.

An edible fruit clearly illustrates these characteristics. Its producer (i.e. the human being who cultivated it, or who just took it from the tree) may eat it (which means that he/she paid for the fruit with his/her cultivation or harvesting labour, and that nobody else will be able to eat it) or sell it (which means that the consumer paid a certain amount for the fruit – otherwise he/she would not be able to eat it – and that nobody else will be able to eat it, unless the buyer resells the fruit).

Another example is a T-shirt. This is a more durable good, and it may be used by different persons. However, we must suppose that it has an owner, and it is clear that the owner paid something for it and that the T-shirt cannot be used at the same time by two different people (only sequentially)[27].

However, there are goods that do not show the characteristic of rivalry in consumption. A classroom lecture is a good example. At least until some saturation threshold (the classroom capacity) is reached, the lecture may be used (consumed) by several people at the same time without any additional costs or any loss of the satisfaction of the need for increased knowledge. A bridge over a river or listening to radio signals (of a coded TV cable, for instance) are other examples.

Some goods not only do not show rivalry in consumption, but it is even impossible to exclude anyone from consuming them. This means that, once they have been produced and supplied, everybody in certain conditions will use (consume) them, regardless of any payment. Street lights are a good example. Of course, a mechanism that requires, for instance, the insertion of a coin for the light to be turned on could be devised. However, once the light is turned on, everybody passing the street will benefit from it, regardless of any payment. External and internal security provided by the armed forces and by the police forces and judicial system to a country are other classical examples.

Goods for which exclusion is not possible are pure public goods. It is impossible to finance their production by selling them on the market, because the best situation for every potential consumer is the free-rider situation: someone produces (and pays) for the good; everybody (including that person) consumes it. Voluntary production and supply is rare. Thus, if a society wishes to enjoy a public good of this kind, it is necessary to set up a special producer (usually the state) and to provide it with some special financing device: either the revenue from certain capital goods or (and this is the most common procedure nowadays) the right to collect taxes.

Goods that do not show rivalry in consumption are social goods, or quasi-public goods. It is possible to finance their production by selling them on the market, but this often leads to suboptimal situations, because some potential satisfaction for consumers without additional cost may be lost if there are enough consumers to pay for it without saturation and the good is produced for them and other people are excluded. To avoid this situation, state supply or state regulation of the supply of this kind of social good is quite common. Of course, these goods do not need to be financed by taxes. Payments by consumers to cover costs are the most efficient solution.

The state supply of goods sometimes includes goods that show neither the impossibility of exclusion nor the absence of rivalry in their consumption. This is usually the consequence of the fact that society considers these private goods (from a strictly technical point of view) to be what economists call 'merit goods'. Merit goods are private goods (or social goods, as defined above) that society decides should be consumed by everybody, or at least by more people than would consume them on a purely market basis. Basic education is a classical example. There are many social and economic arguments to support the idea that the spread of basic education is useful not only for the persons that receive it, but for society in general. This may lead to the decision to provide basic education at a reduced or zero price to everybody, and even to force children to attend school.

To sum up, public goods in the current sense of goods provided by the state include: pure public goods in a technical sense; social goods; and merit goods.

Of course, we do not mean that this economic approach amounts to everything you need to know in order to understand the activities of the state. But we do claim that it provides the bulk of the explanation for the choices of the scope and scale of most state activities[28].

27 Of course, these goods may be given away as a donation by the owner or stolen. Whatever the case, they always have an owner and they cannot be used by more than one person at the same time.

3.5.3. Preferences

Preferences are straightforward to understand and very difficult to ascertain. Of course, if tastes change, we should expect an increase in the demand for those goods for which there is a higher preference and a decrease in the demand for those goods for which there is a lower preference. However, statements of preferences, whether spontaneous or resulting from market surveys, are rare for earlier periods, and often treacherous, because people tend to express the preferences which are deemed to be socially correct, rather than the preferences that really govern their behaviour. Of course, when someone chooses, preferences are undoubtedly revealed. However, revealed preferences only include feasible or attainable alternatives (i.e., if A is chosen, we may conclude that it is preferred to B, if B is available, but we cannot know whether it is preferred to C or C is preferred to A, if C is not available).

Thus, it is very difficult to know the precise role of preferences in determining changes in the structure of total demand. It is possible to suggest that people: (i) became more far-sighted, and this contributed to the relative increase in investment; (ii) came to place greater value on the needs satisfied by public consumption and investment, and this contributed to the relative increase in public expenditure; (iii) came to place greater value on the needs satisfied by foreign goods, or on these foreign goods as a means of satisfying the same needs, and this contributed to the relative increase in foreign trade. But, except in the case of foreign goods, which were seldom known to the majority of the population before modern economic growth, we must acknowledge that these hypotheses are simply educated guesses.

3.6. Centrally planned economies

These general observations deserve some qualifications, especially in order to include the case of centrally planned economies, which, in the form of socialist economies[29], covered a significant and ever larger part of the world during the third quarter of the 20th century – affecting almost one third of the world population. Such economies, however, also included some special cases of the capitalist type[30], namely the so-called war economies[31].

28 For a detailed view of the theory of public goods, see Musgrave and Musgrave, 1984, especially chapters 3 and 4.

29 As already stated in section 1, a socialist economy is an economy dominated by the public ownership of productive units and productive resources.

30 As also already stated in section 1, a capitalist economy is an economy dominated by the private ownership of productive units and productive resources.

While the main trends and explanatory factors still hold good, in the case of the centrally planned economies their rhythm and their relative importance and mechanisms show a number of important specificities.

Let us begin with the main trends:

(a) An absolute increase in demand was also apparent, again in keeping with the impressive growth in output. Actually, efforts to foster industrialization led to high rates of growth in most socialist economies. War economies tended to become full employment economies, using all available resources, including resources imported from abroad – or seized from occupied areas – in order to accomplish victory.

(b) The state's responsibility in socialist economies for the provision (and production) of the majority of goods and services, including those technically considered private goods, the strict control over private property and wealth, and the target of an even distribution of income, all resulted in a higher relative importance of state demand, when compared to capitalist market economies, not only for the provision of public goods, but in particular for the provision of the so-called quasi-public goods, some of them merit goods, such as education, health and low-cost housing.

(c) The breakdown of gross domestic product into its use for investment and its use for consumption shows a higher proportion of investment, as against consumption, for most periods and most socialist economies, when compared with market capitalist economies. Large-scale investment policies led to higher average growth rates of gross fixed capital investment when compared with capitalist economies, but generally with poorer results. The dominant planning ideas, which stated that higher investment levels meant lower consumption levels in the short term, but higher consumption levels in the long term (as a consequence of the rate of growth of the economy caused by higher investment) proved erroneous, as a consequence of the general inefficiency of planning models. As a consequence, what was conceived as a temporary sacrifice in order to ensure the consolidation of the socialist society, resulted in a permanent disadvantage in relation to the most developed market capitalist economies.

Actually, the sectoral structure of the economy reveals the priority given to the production of investment goods under a self-inducing process: the production of investment goods raises fixed capital which, in turn, is allocated mostly to the production of investment goods (means of production), which represent largely fixed capital. The classical priority given to heavy industries and arms industries adheres to this model very closely.

31 As their name clearly shows, war economies are economies involved in major wars against one another. The main examples during the period of modern economic growth are, of course, those of most European economies during the period of the Napoleonic wars and the main national economies of the world during the world wars of the 20th century.

As stated earlier, war economies tend to allocate all their resources to sustaining and winning a war: consumption is limited to essential goods, while investment in the heavy industrial sector, namely arms and transport, becomes the main priority.

As far as the factors explaining the trend behaviour of demand in centrally planned economies is concerned, preferences or goals play a more decisive role. Actually, in command economies of the socialist type, social preferences are determinant and have absolute priority relative to individual preferences. As a consequence, the structure of demand is not set by a market process, according to the disposable income of economic agents and prices (set by the market) of the different goods available for use. In centrally planned economies, preferences directly or indirectly reflect the priorities defined in the macro plan by the (bureaucratic) power structure responsible for political decision- making and the implementation of the plan. Moreover, wages, the main determinant of income (since wealth is strictly limited in economies with severe restrictions on private ownership), and prices are mostly set and controlled administratively.

3.7. Backward economies

Unlike centrally planned economies, backward economies do not present particular characteristics in the structure of their aggregate demand which distinguish them from other economies. However, it is true that they show a structure of aggregate demand which is neither identical to the one found in highly developed countries, nor identical to the one found in today's highly developed countries before industrialization. The model of aggregate demand in backward economies is a kind of compromise between the structure of the past (at least of the period in which these backward economies became part of the contemporary world economy) and the structure of more developed economies.

Is it possible to consider the structure of aggregate demand in a backward economy as a brake impeding the take-off towards modern economic growth? In other words, is it possible to consider the structure of aggregate demand as one of the mechanisms that help to perpetuate backwardness? The answer of development economics to this question is usually positive. Traditionally, special emphasis has been given to the absence of adequate levels of investment, and consequently to the lack of sufficient machinery and infrastructures. In backward economies, the low level of product per head induces a high propensity to consume, as most of the private income must be spent in private consumption. Thus, private saving tends to be modest, and does not form a significant source of investment (moreover, demographic conditions usually do not contribute towards an improvement in the macroeconomic mechanism). At the same time, the low level of product per head also limits public revenue, regardless of fiscal policy. Thus, public investment cannot easily replace private investment. More recently, emphasis has been placed on

the lack of public expenditure on key aspects in the formation of human capital (for instance, education and health). Of course, the mechanism described in relation to public saving and investment (in physical capital) also works in the case of human capital.

Anyway, these difficulties were sooner or later overcome by almost all European countries, although they remain a significant problem in other continents. It is possible to say that European countries overcame the vicious circles described above in two ways. One was greater integration in the world economy, together with an economic and social background geared towards the generation of a significant flow of capital, especially through foreign direct investment and borrowing in foreign capital markets. The other was an exceptional government effort to generate additional saving, at the expense of maintaining relatively low consumption levels. In most Eastern European countries, the industrialization effort chose to follow the second path and was undertaken in the context of centrally planned economies.

4. Private consumption

4.1. Introduction

Previous sections of this chapter have already considered the main trends related to the aggregate evolution of private consumption. Thus, we know that:

(i) There was an absolute increase in private consumption, leading to a significant rise in the standards of living.

(ii) There was a relative decrease in private consumption until the mid-20th century, both because consumption decreased as against investment and because private consumption and investment decreased as against public consumption and investment. The evolution during the second half of the 20th century was the reverse, i.e. there was a relative increase in private consumption, albeit at a slower pace, because consumption increased as against investment and public consumption, and investment increased at a lower pace as against private consumption and investment. It should, however, be noted that the increasing share of collective consumption and the increase in the absolute proportion of output devoted to capital investment remained crucial for sustaining the rising standards of living from the mid-20th century onwards.

Table 4.1 illustrates the evolution of the ratio of private consumption to total demand throughout the period of modern economic growth.

Table 4.1 – Ratio of private consumption to gross domestic product

Year	1870	1913	1950s	1960s	1970s	1980s	1990s
Germany	82	69	59	59	61	62	65
Great Britain	83	79	67	63	60	61	64
Italy	87	78	68	59	60	61	61
USA	77	75	64	63	63	66	68

Source: Kuznets, 1966 and Eurostat.
Figures in percentages.

As already explained in section 3 of this chapter, the main explanatory factor for the absolute and relative behaviour of private consumption throughout the period of modern economic growth was the rise in income, or to be more precise, the rise in disposable income, i.e. the fraction of income which remains at the disposal of the private consumer after direct taxes are paid (actually, disposable income increased at a slower rate than income or gross domestic product, because there was an increase in the proportion of taxes needed to finance the increase in public expenditure). As disposable income rose, private consumption also rose, although at a lower pace, i.e. private consumption largely behaved as a normal good, with the income elasticity of demand remaining positive but lower than one, until the mid-20th century. The situation changed after the 1950s, as pointed out above.

Relative prices and general preferences also played important roles in the process, although it is difficult to ascertain their global effects (for more on this topic see box 4.1).

Box 4.1 - On the determinants of consumption

The classical / Keynesian approach

Although aggregate consumption did not play a significant analytical role in classical and neoclassical economics, it may be said that current disposable income was already perceived, from the very beginnings of economic science, as the main determinant of the level of consumption. Thus, the Keynesian approach to the problem, suggesting a functional relationship between aggregate disposable income (the explanatory variable) and aggregate consumption (the explained variable), may be considered in line with classical and neoclassical insights.

However, the Keynesian approach introduced certain sophistications, such as the concept of a marginal propensity to consume, i.e. the proportion of additional income spent on consumption, and the hypothesis that such a propensity is positive but lower than one. In other words, the hypothesis is that people usually increase their consumption as disposable income increases, but do not spend all their additional disposable income on consumption. And, above all, the Keynesian suggestions triggered a debate that led to several additional important insights into the determinants of consumption.

Nonetheless, it must be said that both theoretical discussions and econometric studies have hitherto confirmed the basic validity of the classical / Keynesian approach. Thus, it is possible to say that current disposable income seems to be the main determinant of consumption.

The wealth effect

The first additional hypothesis put forward to explain the level of aggregate consumption was the so-called wealth effect, that is to say the suggestion that, besides varying positively with disposable income, consumption also varies positively with the (net) wealth of consumers.

It is possible to say that theoretical discussions and econometric analyses have also confirmed the validity of the wealth effect. However, its strength is much less than the strength of the income effect. Thus, as the net wealth of consumers in general does not usually undergo rapid changes, changes in the level of consumption triggered by the wealth effect are commonly very small.

The only significant exception occurs when stock market shocks trigger huge variations in stock market capitalization. Although it may be argued that these are often illusory changes of wealth (because the high amounts of capitalization reached in market bubbles are impossible to be cashed, or, to be more precise, can only actually be cashed by a fraction of their potential owners), there is no doubt that at least some consumers treat it as ordinary wealth, and thus these stock market shocks may determine sharp changes in consumption.

The life cycle hypothesis

A second additional explanation for consumption levels has dealt with the so-called life cycle hypothesis (Duesenberry, 1949; Modigliani-Brumberg, 1954).

The basic idea of the life cycle hypothesis comes from an analysis of the different consumption behaviours at different ages of life. According to this sociological analysis, young people tend to dissave, that is to say, to consume more than their current disposable income, as a way of starting family and professional life. Donations and legacies from other generations and credit are the financial bases for such behaviour. Once this initial phase of family and professional life has been passed through, the same analysis suggests that mature adults tend to save, i.e. to consume less than their current disposable income (which is usually highest at this age of life). This allows them to pay for the credit borrowed in the previous phase and to accumulate savings for the third age of life. This last phase of life is again characterized by dissaving, in other words by an excess of consumption over current disposable income, especially when income is reduced (by retirement, for instance).

As a consequence of the life cycle hypothesis, it is likely that the age structure of the population is a significant determinant of the level of aggregate consumption, or at least of the concrete level of the propensity to consume.

The permanent income hypothesis

At the heart of the life cycle hypothesis lies the idea that people are able to understand the typical variations In the level of their disposable income throughout the course of their life. The so-called permanent income hypothesis went further and suggested that people are also able to identify the permanent (structural) or transitory (cyclical) character of variations in income.

Accordingly, current consumption is not really a function of current disposable income, but a function of permanent income, i.e. of the structural component of current disposable income (Friedman, 1957).

Econometric support for such an optimistic view of the capacities of the average consumer seems to suggest, at least, that incorrect interpretations are not unusual.

The ratchet effect

Another interesting suggestion springing from the same source is the so-called ratchet effect. According to this hypothesis, the level of consumption shows a hysteresis behaviour: when disposable income rises, consumption rises in accordance with a given marginal propensity to consume, but when disposable income falls, consumption does not fall in accordance with the same marginal propensity to consume, because consumers try to maintain the standards of living that they had attained during the phase of rising income.

Besides noting that certain facts that may be accounted for by the ratchet effect may also be accounted for by the life cycle and permanent income hypotheses, it is important to acknowledge the validity of all these approaches, stressing once more that they must be considered as improvements in detail to the basic classical / Keynesian approach.

Institutions and economic policy

An interesting development along the sociological lines of the life cycle hypothesis emphasizes that the institutional and political evolution of the most developed countries after the Second World War tended to change the very facts that formed the basis of the behaviour it described.

As a matter of fact, the development of social security systems meant that it became less important to save privately for old age, because there existed a compulsory social mechanism that provided those savings, and, above all, income for old aged people. High taxes and low real yields on savings further fostered the reduction in strictly private saving.

Recent political emphasis on the need to reform social security institutions and to force people to again rely on their strictly private savings (even if invested in schemes such as pension funds) shows that these interpretations have been taken fairly seriously by economists and politicians.

Cultural and social effects

Motivations to increase individual consumption expenditures do not arise solely from a belief in the benefit of certain goods for fulfilling some particular need.

Societies develop social goals. Under modern economic growth, a higher standard of living becomes a generally important social goal that stands as an end in itself and leads, through a socialization process, to an impulse to spend more in order to obtain superior/high-quality goods. Psychological motivations and implications (i.e. maintenance of self-esteem) are also relevant aspects in these processes.

The social class structure generated by modern economic growth implies a system of differentiated social status whose criteria for attaining a high status depend mainly on income (prestige means success and success is highly correlated with income) and high-income groups are socially recognized by their high consumption standards. On the other hand, the high degree of social mobility that characterizes modern societies is also a driving force leading to high consumption patterns.

Cultural factors interfere in the adaptation of these modern social patterns to specific societies producing significant differences between them (i.e. Japanese consumers save three times more of their income than Americans do). For a general overview of these matters, see Bourdieu, 1982.

4.2. Composition of private consumption

The European system of national accounts (SEC 1995) recommends the classification of private consumption according to the following ten items:

(1) Food, beverages and tobacco

(2) Clothing and footwear

(3) Housing, water, gas, electricity and fuel

(4) Furniture, household equipment and household maintenance

(5) Health

(6) Transport

(7) Recreation, leisure and culture

(8) Education

(9) Hotels and restaurants

(10) Sundry items

Table 4.2 gives an idea of the structure of private consumption in Europe at the end of the 20th century.

Table 4.2 – Structure of private consumption in Europe in 1996

Item	B	DK	D	EL	E	FR	IRL	I	L	NL	A	P	FIN	S	UK
Food, beverages and tobacco	12	14	10	17	17	14	14	16	11	11	13	22	13	13	11
Clothing and footwear	7	5	6	10	7	5	6	9	6	6	7	9	4	5	6
Housing, water, gas, electricity and fuel	21	27	21	18	13	22	15	18	20	21	20	8	25	33	20
Furniture, household equipment and household maintenance	9	6	8	6	6	7	6	9	11	7	8	8	6	6	6
Health	12	2	16	6	5	10	4	7	7	13	5	5	6	3	2
Transport	13	18	16	11	16	17	14	12	20	13	16	16	16	17	17
Recreation, leisure and culture	2	3	?	2	?	2	2	3	?	3	4	?	4	4	4
Education	1	3	?	3	?	2	6	?	?	3	1	?	3	2	3
Hotels and restaurants	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Sundry items	23	22	23	27	36	23	33	26	25	23	26	34	23	17	30

Source: Eurostat.
Key: B — Belgium; DK — Denmark; D — Germany; EL — Greece; E — Spain; FR — France; IRL — Ireland; I — Italy; L — Luxembourg; NL — Netherlands; A — Austria; P — Portugal; FIN — Finland; S — Sweden; UK — United Kingdom.

Although published statistics are not as detailed as recommended, they enable us to paint a general picture of the structure of private demand in contemporary Europe. If sundry items (always important) are ignored and housing and household equipment are lumped together, housing appears as the main expenditure of European consumers (the only exception is Portugal, where housing is superseded by food). Second place usually goes to transport, and food comes third. These are the items that usually have an above-average share. Clothing usually plays a minor role. The same thing happens with culture and education, even if lumped together. This is likely to be a consequence of the major role played by the public supply of related services. Different attitudes towards public health services account for different proportions of private health expenditures from country to country.

The main note to be added to these figures is the similarity of general patterns in private consumption in different European countries, in spite of national traditions and climate diversity. As a matter of fact, it might be supposed that these factors would significantly affect the structure of

private consumption, but this is not the case. It may be argued that the dissemination of relevant innovations, including those of the institutional type, the convergence of working conditions, especially those linked to urbanization, and the influence and spread of the typical patterns in fashion, during the period of modern economic growth, contributed to this convergence in consumption patterns. We will return to these topics later on in this section.

Similar, relatively comprehensive data for earlier periods are not available. However, it is possible to have some idea of a few basic facts about the evolution of private consumption throughout the period of modern economic growth.

4.3. Main trends in the composition of private demand

There are four main trends to be noted in the evolution of the structure of private consumption during the period of modern economic growth[32]:

(i) The decrease in the importance of food.

(ii) An early increase in the importance of clothing, followed by a decrease after the maturity of modern economic growth was attained.

(iii) A later increase in the importance of housing and household equipment, transport and transport equipment (especially cars), and durable goods in general.

(iv) A recent increase in the importance of services.

4.3.1. The decrease in the importance of food

The proposition that the proportion of expenditure on food decreases as income rises was formulated for the first time by Ernest Engel in 1857, and is currently known as Engel's law. Table 4.3 illustrates Engel's law[33].

32 Minchinton, 1973, and Deaton, 1976, provide a very good summary of the evolution of private demand in European countries until the third quarter of the 20th century.

33 Actually, Engel's law was formulated for cross-section family budgets in a given country, but empirical evidence shows that it still holds good for time series and cross-country comparisons.

Table 4.3 – Evolution of expenditure on food

year	1890s	1920s	1950s	1980s	1996
Germany	54	?	42	12	10
Great Britain	46	32	30	12	10
Italy	68	61	57	20	16
USA	38	33	29	13	11

Source: Kuznets, 1966, and Eurostat.
Figures in percentages.

The fall is impressive, especially after the Second World War, although it must be stated that it is perhaps magnified by the absence of a specification of the item 'hotels and catering' in contemporary data, because these partially satisfy the same need as the item 'food', but as a superior good.

The rationale of Engel's law is obvious: food is the most basic need for human survival (or that of any other living being). Pre-modern societies often experienced situations of widespread famine. Modern economic growth was characterized, from its very beginnings, by significant progress in agriculture, allowing for a significant population growth and a simultaneous improvement in the food intakes of the average human being. However, people's food needs soon became relatively satiated. Thus, the proportion of expenditure on food decreased. This decrease goes a long way towards explaining the decline in the importance of agriculture as an economic activity.

Anyway, the operation of Engel's law has been partially minimized by some factors that characterize modern economic growth and may account for the relatively slow pace of the decrease in the proportion of food expenditure in total demand in some economies, during some periods before the Second World War.

Among such factors, Kuznets, 1966: 269-276, emphasizes the changes taking place in living conditions brought about by shifts in the production structure, namely urbanization.

Urbanization implies extra costs of living that affect the level of consumer expenditure. As far as food consumption is concerned, distribution, packaging, pre-processing or processing, canning and freezing, all lead to an increase in the cost of transformation processes and retailing services, which add to the price of foodstuffs. A conspicuous development of these types of services, especially in the most developed countries, concerns restaurants and related services, which are, however, classified in current statistics as a service item and not under 'food, beverages and tobacco'. New work schedules and female work performed outside the household lie behind the increasing importance of this type of services. Of course, the supply of prepared food as a commodity in the market is not a novelty of modern economic growth, but modern hotels are much more important than pre-modern inns, and restaurants as specialized establishments are much more of a novelty.

Moreover, the fact that less food is self-consumed by agricultural producers may suggest an improved statistical accuracy for its measurement.

The absolute increase in food expenditure that accompanied its relative decrease throughout the period of modern economic growth ensured that food shortages disappeared altogether from the most developed countries. Nowadays, food problems in these countries mainly take a qualitative form: diet is often detrimental to health, either because people eat too much or because qualitative improvements from a social point of view do not always coincide with qualitative improvements from a health point of view. Of course, this does not mean that some individuals or even social groups do not still have quantitative food problems, especially during recessive and depressive phases of the economy, but these may be considered as marginal problems, in both senses of the term.

The situation in less developed countries is rather different. Food shortages, and even widespread famine, are still common phenomena in many places, especially in Sub-Saharan Africa and Southern Asia. Technological improvements in agriculture have been able to keep pace with population growth on a global scale, but regional and local situations may still be found of the Malthusian type – population growth ahead of agricultural growth. They often lead to phenomena related with the depletion of natural resources in a desperate attempt to fill the gap – desertification in the Sahel is the most conspicuous, but this is far from being the only case that might be mentioned.

As to the question of the types of food involved, a few further remarks are important. Firstly, mention must be made of the development of a new basic food during the 19th century: potatoes. This is a plant of American origin, introduced into Europe during the modern era, but which did not occupy a really important place in the everyday diet until the 19th century. Secondly, it is important to stress the increasing importance of imports of what may be called exotic food, especially fruits, from the late 19th century onwards (the leading example at the beginning was bananas, but nowadays, this is a widespread phenomenon). The regular intake of fresh fruits, a rare phenomenon in significant parts of Northern Europe until the very end of the 19th century, especially in towns, was an important qualitative improvement in the diet of ever greater proportions of the European population. By adding some relevant elements, namely vitamins and minerals, fresh (and, to a lesser extent, canned) fruit helped to reduce certain types of diseases, namely heart diseases, poor eyesight, skeletal deformities or bad teeth. Thirdly, there were very important developments in food conservation techniques: refrigeration, canning and pasteurization made many types of food available in places or seasons when they were traditionally absent. This did not prevent the continuity, or even the development, of traditional conservation techniques, since traditional preservatives, such as salt and sugar, became available in greater quantities and at relatively low prices, and were eventually combined with the new conservation techniques.

Beverages are statistically lumped together with food, and some novelties in that field must also be noted. The main one relates to the availability of potable water (and of water for cleaning and sewage) in urban areas. This was not a new problem, but it became much more serious with the increase in the size of urban areas, so that new techniques were needed for the transport and the

purification of water. Consumption of milk and juices in towns was fostered mainly by the development of conservation techniques similar to those used in the case of food, with the same positive effects on health as those that have just been mentioned. Alcoholic beverages showed an increase in the importance of more high-quality products (e.g. champagne, whisky, vodka, wines of famous origins, and beer of well-known denominations)[34]. The so-called exotic beverages, coffee, tea and chocolate, also became more and more common as a consequence of the reduction in freight costs. And, last but not least, reference must be made to cola, a late 19th-century novelty, which was to become the basis for the formation of huge multinational companies during the 20th century.

Another item statistically lumped together with food is tobacco. The quantitative and qualitative increase in the consumption of tobacco is another undeniable feature of the period of modern economic growth (its cultivation also spread into some parts of Central and Eastern Europe). Although the second half of the 20th century and the early 21st century saw the development of anti-tobacco campaigns for health reasons, they have not yet seriously jeopardized the importance of tobacco in consumption (and the profitability of large tobacco firms, basically those of American origin).

Other stimulating or tranquilizing substances, such as opium, cocaine, etc. have also played a very important role in consumption and business (apart from their important medical uses). However, they do not appear in the statistics, because they are still legally forbidden in most countries, most notably in Europe and North America.

4.3.2. The increase and decrease in clothing

Table 4.4 suggests that: (a) clothing was always a less important item than food; (b) a drop in the expenditure on clothing was already visible in the late 19th century (with the possible, and somewhat surprising, exception of Great Britain).

34 Note that, in the 18th century, alcohol consumption was already high among the poorest people in industrial towns, where cheap raw spirits (e.g. gin) were in abundant supply, with some negative health outcomes. Thus, a reduction also occurred in (low-quality) alcohol consumption.

Table 4.4 - Evolution of expenditure on clothing

year	1890s	1920s	1950s	1980s	1996
Germany	15	?	14	8	6
Great Britain	10	11	12	7	6
Italy	?	?	12	11	9
USA	15	13	10	?	?

Source: Kuznets, 1966, and Eurostat.
Figures in percentages.

However, the importance of the textile and clothing industry in the early phases of industrialization, especially in 18th-century Great Britain, is undoubted. As the most important destination of textile and clothing production is private consumption, this suggests that there was a period in the early phases of industrialization when there was an increase in the share of the expenditure on clothing within the category of private consumption.

Similarly to the explanation given for Engel's law, this may be interpreted as meaning that clothing tends to be the second most important need to be satisfied by human beings, especially in more temperate and cold climates. Thus, once the need for food had been relatively satiated, the attention of consumers turned to clothing, until this second need was also relatively satiated. This would explain the rise and fall of the relative importance of the textile industry.

Further characteristics may be found that are similar to those relating to the food item. Of course, both the relative increase and the relative decrease in the importance of clothing were accompanied by an absolute increase in the expenditure on clothing and by a qualitative improvement in the clothing that was manufactured. The absolute increase also ensured that clothing shortages became a very rare phenomenon in highly developed societies. The situation in less developed societies was, once more, clearly far less impressive. Qualitative improvement meant that luxuries that previously were available only to those who may have been considered rich people became more and more widespread (silk clothes may be cited as an example), and coarse clothing became less and less used (rough linen clothes may be cited as an example). It also led to the development of rapidly changing fashion cycles, as a stimulus for consumption[35].

Reference must also be made to two technological developments: artificial fibres, which replaced natural fibres in most 20th-century clothes, and artificial dyes, which, together with new dyeing techniques, completely changed the possibilities available for the colour patterns of clothes, from the mid-19th century onwards. Both these development were linked to the growth of the chemical industry, allowing for a cheaper and more diversified supply of clothes. Actually, these new

35 This also involved competition between various fashion centres, eventually leading to successive hegemonies (the replacement of Paris by Milan during the second half of the 20th century is a case in point).

materials replaced the use of natural raw materials (namely silk, wool, linen and cotton) in their traditional coarser versions. Traditional high-quality versions of clothes made from natural raw materials continued to play an important economic and social role, as they remained the most expensive types of clothes available.

4.3.3. The increase in housing

As might be expected, once the needs of food and clothing had been relatively satiated, a third priority defined the next item of private consumption that would experience a relative increase, namely housing.

Housing is defined as including both the house itself and household equipment. Some of this equipment already existed in pre-contemporary societies, such as household textiles, furniture, cooking implements, cleaning implements, heating and lighting facilities, etc. However, modern economic growth provided households with a lot of new equipment, designed either to perform the same tasks more comfortably, as in the case of electric light bulbs, sewing machines, gas and electric cooking devices, vacuum cleaners, etc., or to perform new tasks and open up new possibilities, unavailable to pre-contemporary societies, as in the case of telephones, radios, television sets, air conditioning, personal computers, etc. The invention and spread of these novelties started in the mid-19th century and has continued almost without any significant breaks until the present day. This may explain why housing expenditure did not show any significant relative decrease throughout the second half of the 19th century and the whole of the 20th century, as table 4.5 illustrates.

Table 4.5 - Evolution of expenditure on housing

year	1890s	1920s	1950s	1980s	1996
Germany	23	?	?	19	21
Great Britain	11	14	13	20	20
Italy	8	8	5	14	18
USA	18	18	16	25	24

Source: Kuznets, 1966, and Eurostat.
Figures in percentages.

A few further aspects should be stressed.

Firstly, it must be borne in mind that a significant part of this housing expenditure relates to the amounts spent on rents or house purchases. The evolution of this segment of housing expenditure is linked to the urbanization process, urban renewal cycles and institutional schemes. In any case, the greater concentration of the population in urban areas had at least one general consequence:

land prices in privileged urban locations tended to rise. Space-saving devices followed, such as the greater vertical development of buildings. However, the combination of increases in the price of land and a continuing high level of demand for urban space also meant that this item was responsible for a high proportion of the expenditure in total private consumption.

Secondly, although all the new developments in housing equipment mentioned above became and have remained a common feature of comfortable houses since their appearance (the only exception might be the sewing machine), these novelties followed the well-known pattern of the logistic growth of demand. This means that they enjoyed an early phase of a very rapid growth in demand, corresponding to their spread among the relevant segment of consumers, followed by later phases of a slower growth in demand, when the replacement of this equipment and its spread among marginal segments of consumers became the main sources of sales. This led to phases characterized by the exceptional development of a given industrial sector, linked to certain types of household goods. General patterns are difficult to ascertain, but it is possible to suggest that there was an evolution from a predominance of mechanical devices in the second half of the 19th century to a predominance of electrical devices in the first half of the 20th century, followed by a predominance of electronic devices in the late 20th and early 21st century.

As a result, the general appearance and structure of a dwelling has changed considerably over the last two centuries. The functional division of rooms became feasible for larger groups of the population and some activities were afforded special attention, largely as a result of changes in tastes, as was the case, for example, with sanitation. The spread of (increasingly sophisticated) bathrooms even became an important, internationally acknowledged statistical item, used for assessing the relative well-being of populations in different regions or economies.

The social recognition of the relevance of minimum standards of housing, coupled with public health concerns and the apparent failure of the market to supply the poorest groups with suitable accommodation, led philanthropic associations and local urban and central authorities to provide low-price housing for the less well-off classes through a series of different programmes.

As far as furniture and interior decoration are concerned, just as in the case of clothing, changing fashions have provided cyclical stimuli to consumption, especially during the 20th century.

Energy consumption for heating and lighting (and for operating an increasing number of household devices) also became a relevant part of housing and household expenditure. Traditionally, its relative importance varied significantly with geography and climate, but the development of air conditioning reduced those differences.

4.3.4. The increase in transport and transport equipment

It may be suggested that transport became an ever more important item of private consumption during the second half of the 19th century, mainly because of the urbanization process, which has already been mentioned above in connection with other developments in the structure of private consumption. It is true that the development of railways around the middle of the 19th century brought a decrease in prices that greatly increased the demand for transport, even for purposes of mere recreation. However, it was the growth in the size of the world's largest cities that made transport, especially daily urban transport by artificial means, a priority in private consumption.

Animal-drawn trams were the first solution found for this problem of urban transport, but a few innovations radically changed the landscape of urban transport during the second half of the 19th century. Electricity was the main driving force behind these innovations, and the electric-powered tram was the main novelty to arise in this context. At the same time, inefficient and uncomfortable steam-powered underground trains were replaced by electric-powered underground trains in several large metropolises.

New radical changes appeared during the 20th century in the form of buses and private cars. Buses tended to supersede electric-powered trams in general, even reaching the point of their actual disappearance in many places. Private cars became the symbol of what W. W. Rostow called the age of mass consumption, and for a long time they were seen as the main representative of the so-called 'durable goods'. They became the most important item of urban transport equipment in almost all highly developed countries, especially in the United States of America. Henry Ford, the man who invented the concept of a car 'so cheap that it might be bought by the blue-collar workers of the car plant', must be reckoned as one of the greatest entrepreneurs of the 20th century in a Schumpeterian sense.

During the second half of the 20th century, aircraft transport brought a new stimulus to transport expenditure, as it provided more rapid and significantly cheaper long-distance transport, especially for passengers.

Unfortunately, it is impossible to organize a table similar to those used to study the evolution of the consumption of food, clothing and housing, because statistics do not present detailed figures about the consumption of transport for earlier periods.

4.3.5. The increase in services

The significant increase in the expenditure on services is the main novelty of the second half of the 20th century. This expansion included the areas of education, health, recreation, hotels and

catering, personal services, etc. This was partly a consequence of the high income elasticity of demand at the income levels attained during that period in the most developed countries and partly a consequence of technological innovation allowing the supply of most services at lower costs, which presented a more elastic price elasticity of demand.

The long-term significance of expenditure on education and health in terms of investment was already pointed out in section 3. Now, we must stress that private expenditure on education and health was not the only item to grow. So did public expenditure. The relative importance of these items varied from country to country and over time, depending on the different institutional schemes. The main point that must be underlined is that illiteracy rates became negligible in highly developed countries, the number of years spent in education increased, life expectancy increased and mortality, especially infant mortality, decreased as a consequence of these efforts.

A detailed analysis of recreational and personal services is almost impossible to achieve from a statistical point of view, because of a lack of available data. Nonetheless, one aspect of the question deserves some further examination. The amount of time devoted to work has decreased significantly throughout the period of modern economic growth. Working hours per day usually do not amount to more than eight in total in highly developed countries. The number of working days per week has also normally been reduced to five. The number of working weeks per year has also diminished, although national (and especially continental – Japanese as against American as against European) habits vary a great deal as far as holidays are concerned. The number of working years per life has also fallen in relative terms because of the greater number of years spent in education and because of retirement schemes, although the increase in life expectancy and the reduction of morbidity have tended to pull in the opposite direction. Nonetheless, as the relative quantity of time devoted to work dropped, the relative quantity of time devoted to leisure rose. And leisure means consumption, and consumption of new kinds. Tourism and festivals of all kinds, ranging from football to show business and cultural activities, are the economic sectors that have most benefited from this change.

Unfortunately, it is impossible to organize a table similar to the ones used to study the evolution in the consumption of food, clothing and housing, because statistics do not present detailed figures relating to the consumption of services for earlier periods.

4.4. Special features of centrally planned economies

As far as centrally planned economies are concerned, the main trends in private consumption reveal certain specificities, which have to do with the availability of final consumption goods.

(a) Per capita real consumption grew significantly in the long run, particularly after the second world war. Such a rise was very impressive, especially if the low levels of welfare and standards of

living at the point of departure are taken into account (note that most experiences of centrally planned economies of the socialist type, including those introduced into the countries of Central and Eastern Europe, were based on the fact that earlier traditional, pre-modern economies had endured rather low standards of living). However, the growth in real consumption per capita was slower than under capitalist market economies and the endowment with consumer goods with a higher income elasticity was lower in socialist countries, so that, by the 1980s, these economies were just stagnating. Actually, mass consumption was never attained even in the most developed economies, while basic economic security, which included the provision of housing, health and education at very low prices (sometimes even being free), was enjoyed by the whole population. However, shortages in basic consumption goods, including foodstuffs, were not unknown (see table 4.6).

Table 4.6 – Ratio of East German to West German consumption in 1970

Item	ratio
TV sets	93
refrigerators	66
washing machines	89
cars (1980)	39
meat	86
milk	105
cheese	46
potatoes	149
vegetables	134
fruit	44
tea	59
coffee	51
spirits	29
beer	68

Source: Kornai, 1992.

War economies, especially those engaged in military actions or under occupation, usually endure a significant reduction in private consumption. A total absence of many superior goods, whose production or importation have been postponed, and a severe shortage of fuel, foodstuffs and other basic goods are the normal situations.

(b) As stated before, the main goals of rapid growth, industrialization and recovery, pursued by modern socialist command economies, led to an inevitable sacrifice of consumption, especially private consumption, so that more could be spent on investment goods. The same thing happened in war economies, because of the overriding goal of military victory.

(c) Again, as mentioned before, the typical high-income elasticity goods, especially those of the durable consumption type, and services, namely the ones classified as hotels and catering, recreation, leisure (with the exception of culture), sundry items and transport were scarce, poorly diversified and lacking quality when compared with capitalist market economies. Some comparisons

between private consumption and expenditure on welfare in European centrally planned economies and in market economies are available in Kornai (1992) and United Nations (1990).

If anything similar to market mechanisms was present in the economic system of socialist, centrally planned economies, then the allocation of final consumption goods was the privileged area. However, it must be borne in mind that consumer prices – many of which were subsidized – were administratively fixed and that the total amounts and types of final goods available in the state shops – responsible for the distribution of the large majority of these commodities – were established in the plan. So, in this case – the so-called seller's market – market disequilibria meant shortages even of basic consumption goods. Such shortages could take some time to be overcome as a result of the inefficiencies of bureaucratic coordination mechanisms. Meanwhile, compulsory saving was the usual outcome of such a situation.

(d) The diversity of demand was greatly reduced, when compared with standard market economies, because the final consumption goods and services produced showed little diversification in keeping with the social preferences that were imposed both in socialist economies – particularly those concerned with the development of a heavy industrial sector, sometimes for military purposes – and in war economies, which were only concerned with providing military and basic consumption goods.

(e) Two main reasons lie behind the relatively slow trend displayed by centrally planned economies of the socialist type (as against market economies) towards developing a greater importance of services over goods, which is an inherent feature of modern economic growth. On the one hand, services have a high income elasticity of demand and socialist economies did not attain the high levels of average per capita disposable income, related with mass consumption, that developed market economies did. On the other hand, a distinction is drawn in Marxian political economy between 'productive' and 'non-productive' activities, which has practical effects on planning targets and statistics: the production of tangible material goods is viewed as the productive sector, while the provision of most services is classified as non-productive, and (social) preferences are directed towards the production of material goods over services.

Naturally, war economies, as planned economies managed under centrally established priorities, also tend to favour the production of material goods, namely in the heavy industry, transport, arms and food sectors, in detriment to services. On the other hand, household consumption in times of scarcity and inflation is directed mainly towards foodstuffs, fuel and other basic items.

4.5. Special features of backward economies

The structure of demand in backward economies shows different patterns when compared with that of developed economies, as a result of their lower per capita disposable income, their more unequal distribution of income and wealth, their higher rates of population growth and their particular institutional framework, namely policy measures designed to redistribute income (usually inefficiently) and raise effective demand amongst the poor.[36]

As data show (Table 4.7), the share of private consumption in GDP in less developed economies is typically higher than in industrialized, developed economies, while gross domestic investment and public expenditure are lower. This fact reveals a relatively high marginal propensity to consume as a result of the low level of satisfaction of the need for basic goods, Actually, the consumption of these goods cannot, by definition, be postponed[37] and absorbs most of the income of the majority of the population, leaving no margin for saving and also little basis for taxation.

36 The main types of policy measures adopted for these purposes are pricing policy, job creation and minimum wages, income transfers, provision of public goods, measures to raise the productivity of the poor and asset redistribution (the most radical). Lately, these same state interventionist attitudes have endured severe criticism and setbacks from the neo-liberal approach.

37 Unless some institutional constraints, such as the inequality of land ownership, or the command element in socialist economies, impose a ruthless abstention from current consumption and thereby help to stimulate the solution of social thrift.

Table 4.7 – Less developed countries in a World context

	Real net domestic product per head (1997 dollars, purchasing power parity)	Structure of net domestic product			Consumption		Gross domestic saving (% NDP)	Gross domestic investment (% NDP)	Govern-ment expend-iture (% PIL)	Life expect-ancy (1997)	Popula-tion more than 65 years old (% total)	Average growth of population (%) 1975-1997
		Agri-culture	Indus-try	Serv-ices	Privat e (% NDP)	public (% NDP)						
Less developed countries	992	33	25	42	79	11	20	11		51.7	3.2	2,5
Developing countries												
Sub-Saharan Africa	1534	20	34	46	66	17	18	17		48.9	3	2,8
Arab countries	4094				55	21	21	24		65.1	3.6	2,8
East Asia	3601	13	44	43	50	11	37	39	10	70.0	6.5	1,3
Southeast Asia and Pacific	3697	13	40	47	56	10	34	34	16	65.9	4.5	2
South Asia	1803	25	29	46	72	10	23	18	11	62.7	4.5	2,2
Latin America and Caribbean	6868	8	32	60	67	12	22	21		69.5	5.2	2
Eastern Europe and Community of Independent States	4243	11	36	53	64	15	23	22		68.6	11.4	0,5
Developed countries	23471	2		64	63	16	21	21	26	77.7	14.5	0,6

Source: World Bank (1999-2000).

Probably, the most striking manifestation of the low level of satisfaction of the need for basic goods that is inherent in the less developed economies is malnutrition[38] and its inevitable demographic and health consequences, namely low life expectancy, high infant mortality, low resistance to disease and other aspects of physical or mental damage, as well as its effect on labour productivity (table 4.8 and table 4.9 show statistical evidence of these phenomena).

38 Malnutrition describes two different situations found in many circumstances relating to less developed countries: undernutrition, representing inadequate quantities of food or an insufficient intake of calories; and the condition arising from an inadequate intake of specific nutrients. Nutritional standards differ among international organizations, i.e. FAO and WHO, as well as over time.

Table 4.8 – Prevalence of dietary deficiencies in 87 backward countries

Group of countries or region (a)	Insufficient calories for work (below 90% of FAO/WHO standard) (b)		Lack of calories to prevent growth stunting and serious health threat (below 90% of FAO/WHO standard) (c)	
	population (%)	population (million)	population (%)	population (million)
Backward (87)	34	730	16	340
Low income (30) (d)	51	590	23	270
Middle income (57)	14	140	7	70
Sub-Saharan Africa (37)	44	150	25	90
East Asia and Pacific (8)	14	40	7	20
South Asia (7)	50	470	21	200
Middle East and North Africa (11)	10	20	4	10
Latin America and Caribbean (24)	13	50	6	20

Source: Colman, David; Nixton, Frederick (1994), Economics of Change, p. 258, or World Bank, 1986, table 2..
(a) These 87 countries had 92% of the world's population, excluding China, in 1980. Figures in brackets correspond to the number of countries in each region.
(b) This consumption level is enough to allow the full development of daily activity. It is equivalent to 1.4 times the basal metabolic rate.
(c) This consumption level is enough to prevent serious risk to health and retardation in infant development. It is equivalent to 1.2 times the basal metabolic rate.
(d) Countries with per capita income lower than 400 American dollars in 1983; mid-income countries had income above 400 American dollars.

Table 4.9 – Index of per capita food production in backward countries

	1979-81	1985	1986	1987	1988	1989	1990	index value of total food production 1990
All developing countries	100	108	108	108	112	112	113	139
Africa	100	98	99	96	98	98	95	129
Central America	100	99	94	93	96	95	94	120
Caribbean	100	97	98	96	97	96	92	106
South America	100	104	98	101	104	103	102	125
Near East	100	99	102	100	102	91	95	119
South Asia	100	108	106	104	111	116	114	144
of which India	100	111	108	105	117	122	119	147
East and Southeast Asia	100	109	109	106	110	112	111	136
China	100	121	124	129	113	132	139	159

Source: Colman, Nixton, 1994: 258-260, or FAO, *State of food and agriculture*, 1991, appendix, table 2.

Actually, the incidence of malnutrition is not the result of inadequacies in the food supply, especially if the world economy is taken as the relevant economic space. While the world population doubled from 1960 to 1990, cereal production more than tripled. Even if we adopt a regional approach, it can be seen that total food production has increased in all areas of the developing world, although, in per capita terms, some areas show a decreasing, even if slight, evolution.

On the other hand, a growth in food demand is vital for overcoming malnutrition, and it depends on the joint effects of two factors: (i) population growth and (ii) the growth in per capita demand as a result of the increase in per capita incomes generated by economic growth.[39] It can be met either by increased domestic production or by imports. If it is not met, malnutrition will increase in the lower income groups.

According to the international organizations, available data on the quantitative incidence of malnutrition show a favourable evolution: from 1/3 of the "Third World" inhabitants in 1960 to 1/5 in 1990 (758 million people). Technically, these people could be properly fed using merely 10% of the world's cereal stock. The inevitable conclusion blames distribution operations for most of the incidence of malnutrition. The institutional malfunctioning related with these operations is typical of less developed societies, regardless of the economic system, both from a domestic and from a world perspective.[40]

Usually, malnutrition is the result of a period of undernourishment arising from the typical situation in the backward countries: food insecurity. According to the World Bank, there are two kinds of food insecurity: (i) the chronic one, a continuous inadequate diet; and (ii) the transitory one, a temporary decline in access to a sufficient quantity of food. In extreme cases, the latter has produced famines and an absolute breakdown in access to food. According to what has been said above, since the 1960s, purely natural causes (i.e. climate abnormalities) and demographic factors have become minor causes of famine, while political factors have risen in importance.[41]

5. Private investment

5.1. Introduction

Previous sections have already considered the main trends relating to the aggregate evolution of private investment. Thus, we know that:

39 An income elasticity of demand for food of 0.7 combined with 2% of per capita income growth would imply an annual growth in food demand of 1.4 %, which, when combined with a population growth rate of 2.5%, would imply a 3.9% annual rightward shift of the food demand curve.

40 It is usually recognized that the market systems are incapable of tackling the food problem, which indirectly is a problem caused by an extremely unequal distribution of income. Direct transfers of income in less developed economies are less common than direct transfers of food to those unable to purchase their basic needs in foodstuffs in the open market. Such direct operations in terms of distribution may be implemented by governmental or non-governmental organizations, both at a domestic or an international level, and yet still face inefficiencies and high costs.

41 The great famine in Biafra at the end of the 1960s was the first to draw the attention of the world to the political aspects of famine and to the fact that they tend to be selective, affecting particular ethnic and social groups caught up in a formal or informal war environment.

(i) There was an absolute increase in private investment, which contributed powerfully to the phenomenon of modern economic growth.

(ii) There was a relative increase in private investment, because consumption decreased as against investment, in spite of the decrease in private goods as against public goods.

The increase in investment has already been explained in section 3, as a consequence of three factors:

(a) Future consumption, towards which today's investment contributes, is a superior good (thus, it has an income elasticity of demand of more than one).

(b) There is a price-elastic demand for investment goods.

(c) People have increased their concern about the future, possibly because of the rise in average life expectancy, and more recently because social security reforms are expected to reduce retirement pensions.

Nonetheless, it is important to stress that the demand for investment goods is a derived demand. In other words, investment goods are not sought after because of themselves, but because of the other consumption and investment goods they are used to produce. Thus, the demand for investment goods depends on the evolution of demand in general. The main consequence of this fact is that the demand for investment goods has cyclical fluctuations that are much more pronounced than the cyclical fluctuations noted in the demand for other goods (and in economic activity in general). At the same time, the demand for each different type of investment goods depends on the evolution of the demand for the different types of goods they are used to produce.

Another very important factor in shaping the demand for investment goods is their replacement cycle, because investment goods have very different useful lives: some are completely destroyed when they are used (e.g. seeds), others last for decades and even centuries, especially if proper repairs are effected (a striking example in Southern Europe is provided by some Roman bridges that are still used for pedestrian and animal traffic).

Last but not least, investment must be financed. Of course, investment is financed by saved income (i.e. income that is not consumed), and, from the point of view of macroeconomic equilibrium, saving and investment are always equal. However, the incentives for saving and investing are not the same, and their values do not necessarily coincide. Moreover, the efficient use of savings may be increased by adequate financial institutions, both institutions of the stock exchange type (for the direct financing of investors by savers) and those of the banking system type (for the indirect financing of investors by savers, using banks as financial intermediaries).

To sum up, capital formation is crucial both to ensure the structural development of the economy and to define its evolution in the short term. In this context, it is important to examine several theoretical contributions on the relations between capital formation and economic

development [see box 5.1] and to examine the main fluctuations in investment in the world economy during the 19th and 20th centuries.

Box 5.1 – On investment

Rostow's model

In his well-known (and controversial) book published in 1960, Walt Rostow tried to develop a general model of economic development, which considered five 'stages of economic growth', namely:

(i) traditional society
(ii) pre-conditions for take-off
(iii) the take-off
(iv) the drive to maturity
(v) the age of high mass consumption

Traditional societies (an expression which the author acknowledges covers a wide variety of situations) are characterized by a pre-Newtonian attitude towards nature, which imposes serious limits on disposable science and technology. This implies that: (a) innovations are exceptional events; (b) most resources are allocated to agricultural production; (c) economic activity shows low long-term growth and high short-term fluctuations; (d) there is a tendency towards local economic self-sufficiency; (e) there is a rigid social structure; (f) political power is controlled by a landowner class; (g) culture is dominated by a religious vision, which leads to fatalistic attitudes.

Pre-conditions for take-off consist mainly of a new post-Newtonian attitude towards nature, which leads to much greater possibilities concerning scientific and economic innovations. Higher levels of education, entrepreneurship and the creation of mechanisms to facilitate capital mobility and trade must also be developed in order to generate the pre-conditions for take-off. At the same time, the will to use the possibilities opened up by this new attitude must also be present. Such a will may exceptionally be an endogenous factor, but it is usually the result of an external challenge that the national society must face up to.

The take-off is actually an exceptional spurt of the pre-conditions just described. According to Rostow, during one or two decades, the resources allocated to investment must increase from 5% to 10% of gross domestic product, so that take-off may take place.

The drive to maturity is a process of consolidation, which, according to Rostow, spans a period of around six decades after take off. It requires a further increase in the resources allocated to investment, which must now reach a level of between 10% and 20% of gross domestic product. This consolidation makes the modernized society able to adopt any form of specialization that may appear as advantageous in a world context.

As a last stage, modernized economies usually attain very high levels of income and standards of living. As a consequence, the structure of both demand and production changes, and shifts instead towards durable consumer goods and services.

Rostow's model has been criticized mainly because of the formalistic nature of his identification of the stages of economic growth and the insufficient characterization of these different stages, especially if national particularities are taken into account.

Gershenkron's model

In contrast to Rostow's approach, Gerschenkron (1965) tried to illuminate the main differences between the processes of modernization followed by the large European economies prior to the First World War.

According to him, it is possible to identify three types of modernization processes, which differ according to the period, the relative level of backwardness, and the main social impulse towards modernization, and, as a consequence, use quite different techniques to command and organize the resources needed for such a process.

Great Britain, as an early comer, was able to use private entrepreneurship as the main social impulse, and the (small-scale) production firm as the main instrument for triggering the modernization process. This was possible because it did not face serious international competition in the new industrial activities on which its modernization was based during the late 18th and early 19th centuries, and the innovations that were used at that time did not require very large capital concentrations for their implementation.

British success showed that there were significant rewards to be reaped from imitating its modernization, creating an established competitor that prevented any other large economy from repeating its experience

without significant changes. At the same time, more sophisticated innovations of the mid-19th century needed larger concentrations of capital for their implementation. Thus, France and Germany, which may be classified as early latecomers, needed a different social impulse, which involved some participation of the old landowning aristocracy in the modernization process, especially in the case of Germany, and a different technique for commanding and organizing resources, which implied the formation of investment banks. These financial firms were the crucial agents of industrialization in these countries, because they were able to gather together large amounts of capital from small savings, and thus to directly support the formation of the large production firms needed to take advantage of the available investment opportunities.

Russia may be classified in this context as a late latecomer. In the late 19th century, the private entrepreneur and a social alliance between the business bourgeoisie and the landowning aristocracy were no longer enough to ensure modernization; and production firms and investment banks were no longer the most appropriate instruments for commanding and organizing the resources, namely capital, that were needed to cope with the new international context and the new technologies. Thus, the government was forced to step in and to become the main social promoter and organizational instrument of industrialization. Some kind of forced saving was needed, by means of fiscal pressure, not only to gather, but also, in a certain sense, to create capital; and significant government expenditure was often needed to support the large production firms that brought about Russian industrialization.

There have been attempts to generalize Gerschenkron's approach to take into account the particularities of small economies, non-European countries and the 20th century. Small economies seem to need a higher degree of specialization to profit from their participation in the world economy. Non-European countries fall into two quite different categories: the Anglo-Saxon New World (the United States of America, Canada, Australia and New Zealand) was able to imitate the British model of modernization sooner or later; other countries seemed to face a more difficult path, perhaps as a consequence of the gulf between their cultural attitudes and those of European (Anglo-Saxon ?) origin. Anyway, a social consensus to modernize in order to stem the tide of Western interference could sometimes act as an efficient surrogate, as the case of Japan clearly illustrates. During most of the 20th century, more and more state intervention seemed to be a *sine qua non* condition for modernization and industrialization, as the case of socialist centrally planned economies seemed to prove. Recent developments, however, point in a totally different direction. New industrialized countries, or the emergent economies, seem to tell a story of reduced direct state intervention in production in general, although some very particular (and decisive) public goods must be supplied, such as macroeconomic stability and the improvement of human resources (e.g. by providing an adequate education framework).

Lewis's model

One author who tried to tackle the particularities of industrialization processes in backward economies in the 20th century was Lewis (1954). He explained economic development in backward economies as a process of structural change, from an unbalanced growth perspective.

Lewis supposes that the economy is divided into two sectors: (i) a traditional sector (agriculture, craftsmanship), characterized by a poor technological level and, consequently, low average productivity and even zero marginal productivity (meaning that it is possible to lay off workers without decreasing total production); (ii) a modern sector (modern industry), characterized by an improved technology and, consequently, higher average productivity and positive marginal labour productivity. According to him, the development process consists mainly of transferring labour from the traditional sector to the modern sector, which thus absorbs the hidden unemployment that prevails in the traditional sector. He believes that this may happen without reducing the agricultural production (and thus without worsening the food situation of the country), because of the assumption of zero marginal productivity in the traditional sector.

However, such a transfer (and in general the amount of labour employed in industry) is a function of the available capital and demand for manufactured goods. Under the realistic assumption of an elastic supply of labour (from agriculture), industrial wages remain low (because of the competition between workers seeking to leave the traditional sector) although they are comparatively higher than in the traditional sectors (so that labour may be attracted from the traditional sector to pay for the effects of urbanization on the cost of living).

This general increase in wages pushes domestic demand for industrial goods higher, leading to profits and further investment in the modern sector. Hopefully, this will create a general dynamic effect in the economy: a process of capital widening.

Nonetheless, a point will be reached where marginal productivity in the traditional sector will cease to be zero and begin to rise. This will push wages higher in the traditional sector, reducing the outflow of labour to industry, while industrial capitalists will have to pay higher wages (reducing their profit margins) if they wish to expand their business. However, as the marginal productivity of labour in the traditional sector rises (and likewise wages), the replacement of labour with capital (machinery) becomes a rational procedure in that

sector. A process of capital deepening is thus triggered. Hopefully, this will lead to the full modernization of the whole economy.

Nurkse's model

A totally different view of the process of economic development was supported by Ragnar Nurkse (Nurkse,1953). According to him, the small size of the market, due to the low per capita disposable income, reduces the incentive to invest in any particular industry. However, if a wide range of industries (including public services) is simultaneously the target of a coordinated expansion of capital formation, external economies will arise, market restrictions will no longer take place and the vicious circle will be overcome. Nurkse underlines the important role of international trade and its compatibility with the balanced growth doctrine, although he underlines that it illustrates the limited role of private direct investment. More surprisingly, he suggests that such balanced growth may be attained regardless of which economic system is adopted: the market one or the centrally planned one.

During the 19th century (and the early 20th century, until the First World War), it is possible to identify investment fluctuations that were closely related to economic fluctuations in general. As a matter of fact, investment booms appear as the main explanation for the phases of expansion, both from the long-wave perspective (the so-called Kondratiev cycles), and the short-wave perspective (the so-called Juglar cycles), while investment contractions (triggered by the exhaustion of the opportunities explored during the expansion phases) appear as the main explanation for recessions and depressions from the same perspectives (see Schumpeter, 1939).

Global war periods, namely the First World War and Second World War years, were periods of high investment. There were, however, two problems with this form of investment: its priority was to develop productive capacity for goods and services which were not much in demand during peace periods; and it was accompanied by huge destructions of productive capacity as part of the destructive war effort. Thus, although the whole of the war effort implied the full employment of productive resources, the wartime allocation of these resources was clearly unsuitable for periods of peace (see Hardach, 1987, and Milward, 1987).

As a consequence, the immediate postwar years usually faced deep restructuring crises, as human and physical resources were set free from military uses and looked for employment in civilian activities. However, the very need to restore the civilian productive capacity destroyed by the war soon pushed countries towards higher levels of economic activity. In favourable cases, this led to postwar economic expansions – the periods of prosperity enjoyed by the United States in the 1920s and 1950s are good examples of this. In less favourable cases, certain kinds of crucial obstacles prevented the full effects being achieved of this push towards higher levels of economic activity – the sluggish performance of most European economies during the 1920s, thwarted by the external payments problems triggered by the war debt and reparation bills, is a case in point. In some cases, external help was provided to overcome these obstacles – the American Marshall Plan (1947-1953), which allowed Western Europe to overcome the shortage of foreign (especially

American) currency in the second postwar period, is the main example of such a success (see Aldcroft, 1987, and Van der Wee, 1987).

Anyway, either these spontaneous or externally aided periods of prosperity eventually petered out, as the need for high investment and its contribution to full employment began to fade. The American prosperity of the 1920s, unaided by the sluggish European performance, did not last for more than a decade. By the late 1920s, investment had begun to fall in the United States, leading to the Wall Street crash of October 1929 and the ensuing Great Depression, which lasted until 1933, and spread all over the world (with the possible exception of the Soviet Union). There then followed a timid recovery, but a renewed investment boom and full employment did not return until the Second World War years (see Kindleberger, 1987). During the 1950s and 1960s, the combined effects of American and European prosperity, together with the impact of the Japanese drive to maturity, ensured a longlasting period of quasi full employment, which covered most of the third quarter of the 20th century and the world economy in general. There then followed a significant new crisis, mainly caused by the collapse of the international monetary system and triggered by the so-called first oil-shock. The last quarter of the 20th century did not repeat the poor performance of the 1930s, but, nonetheless, it was unable to prolong the continuous prosperity of the 1950s and 1960s, in spite of the waves of investment in what is usually called new technologies (see Van der Wee, 1987).

5.2. Composition of private investment

The European system of national accounts (SEC 1995) recommends the classification of private investment in accordance with the following six items:

(1) Animals, seeds and other agricultural products.
(2) Machinery
(3) Transport equipment
(4) Housing
(5) Other buildings and constructions
(6) Sundry items

Again, available statistical data do not make it possible to conform to the proposed theoretical classification before the third quarter of the 20th century. Table 5.1 gives an idea of the structure of private investment in some developed countries during the second half of the 20th century.

Table 5.1 – Structure of private investment in some developed countries during the second half of the 20th century

Germany	1970	1980	1990
machinery	31	28	35
transport equipment	9	8	11
housing	24	27	24
other constructions	36	35	30
other fixed capital	0	2	0

Italy	1970	1980	1990
machinery	25	27	35
transport equipment	9	12	9
housing	30	27	26
other constructions	31	30	25
other fixed capital	5	4	5

United Kingdom	1970	1980	1990
machinery	35	36	35
transport equipment	14	11	7
housing	17	20	19
other constructions	29	29	32
other fixed capital	5	4	7

USA	1970	1980	1990
machinery	30	34	37
transport equipment	10	10	10
housing	20	23	27
other constructions	37	33	25
other fixed capital	3	0	1

Source: Eurostat and Statistical Yearbook of the United States.
Figures in percentages.

The structures are very similar and fairly stable. Machinery and other constructions are the most important items (each of them either approaching or exceeding one third of total fixed capital formation). With the exception of the United Kingdom, other constructions were the main item in the third quarter of the century, but lost their first place to machinery during the last quarter of the century. In a certain sense, all countries converged towards the structure of the United Kingdom during this period. Housing represented a somewhat lower fraction of investment (usually around one quarter) and transport equipment an even lower proportion (around one tenth). The residual item (including animals, seeds and other agricultural products) always finished in last place and was sometimes negligible.

Although similar, relatively comprehensive, data for earlier periods are not available, it is possible to have some idea of a few basic facts about the evolution of private investment throughout the period of modern economic growth (table 5.2).

Table 5.2 – Structure of private investment in some developed countries during the 19th century and the first half of the 20th century

Germany	**1851-70**	**1871-90**	**1891-1913**
productive equipment	24	26	36
housing	34	34	33
other constructions	42	40	32

Italy	**1861-1880**	**1881-1900**	**1901-1910**	**1921-1930**	**1952-1958**
housing	20	23	20	13	25
other investments	80	77	80	87	75

United Kingdom	**1866-1879**	**1880-1899**	**1900-1914**	**1921-1938**	**1952-1958**
productive equipment	44	42	47	38	52
housing	18	19	16	(a)	21
other constructions	38	39	37	62	27

USA	**1869-1888**	**1889-1908**	**1909-1928**	**1929-1948**	**1946-1955**
productive equipment	30	26	36	44	44
housing	25	23	21	15	20
other constructions	45	51	43	41	36

Source: Kuznets, 1966.
Figures in percentages.
(a) included in other constructions.

5.3. Main trends in the composition of private investment

During the period of modern economic growth, the main trend in the composition of private investment that should be underlined is the relative decrease in the item of animals, seeds and other agricultural products. This was the main item of investment in pre-industrial societies, both because of the importance of agricultural activities, and because the depreciation of these fixed capital items is usually more rapid than the depreciation of hardware (as a matter of fact, animals, let alone seeds, have a shorter average life than the normal period for the use of machinery and transport equipment, which in turn have a useful life that is shorter than housing and other constructions).

All of the other items gained in importance during the period of modern economic growth. Fluctuations in their relative proportions were higher than during the second half of the 20th century as shown by table 5.2. However, a few relevant facts about the evolution of highly developed

economies show that all of them played important roles in every phase of capitalist development. As a matter of fact:

a) Technological innovations fostered investment in new machinery and transport material.

b) The urbanization process fostered investment in new housing.

c) Technological innovations and the urbanization process fostered investment in new infrastructures and other constructions, ranging from factories to transport infrastructures (roads, canals, railways, ports, airports).

Conversely, the huge increase that took place in economic activity would have been impossible without the sustained investment in all types of capital goods.

5.4. Special features of centrally planned economies

As far as centrally planned economies are concerned, we have already mentioned that the priority given to investment goods rather than consumer goods made their share of gross domestic product in most periods considerably higher than was the case in most market economies. However, as private property and private firms were restricted to a very small segment of the economy for ideological reasons, a large segment of the production activity was under state ownership and, in the agriculture sector, under cooperative ownership – which, in the socialist context, cannot be taken for a special case of private ownership[42]. Thus, much of what in capitalist market economies took the form of private investment must be considered as public investment in socialist centrally planned economies.

A few small-scale production activities where certain kinds of private property were allowed by official permit, in the form of either industrial or commercial services, were activities endowed with little technological sophistication and with very low capital intensity. Household farming was more important in some cases, but again this was small-scale farming with very low capital intensity. The so-called informal private economy, which is much harder to assess, covered a variety of activities performed under the auspices of a personal relationship, ranging from manual work (usually using very simple means of production, as in the repair and building of houses and in the cleaning and transport sectors) to services such as medical care, typing, babysitting, education, etc..

Thus, running counter to the trend in capitalist market economies, private investment either stagnated or decreased and was negligible in absolute value. The lack of opportunities to invest and the absence of financial markets led to an inefficient use of private savings, meaning wasted potential – one of the weaknesses of command economies.

42 Property rights are the relevant criterion for distinguishing between the different types of property (Kornai, 1992: 59).

However, this should not conceal the fact that, from a material point of view, the bulk of investment in socialist centrally planned economies took the same form as in capitalist market economies, although, in absolute terms, agricultural products had probably the largest share of total private investment items according to the SEC 1995 classification.

Ideological reasons (work is the only legitimate source of income) and politically defined priorities (priority given to heavy industry as opposed to the consumer and agricultural sectors) are the main explanatory factors for these trends.

5.5. Special features of war economies

As for war economies (of the capitalist type), private ownership remained the most important type of property, even if, in some cases, the state created some new production units, namely in the arms industry. At the same time, war created very profitable investment opportunities for private enterprise, while the state became a secure buyer. Thus, war periods probably maintained the relative importance of private investment and made intensive use of private savings. The conversion, in response to state demand, of some industrial sectors from peacetime production (for instance, car production) to wartime production (for instance, tank production) was another source of significant investment demand.

Significant material destruction during the wars, particularly in the 20th century, when sophisticated long-range weapons (such as submarines and planes) were used to destroy the enemy's capital goods, called for an additional effort to rebuild productive capacity, leading to a significant demand for investment, already in wartime, and especially in immediate postwar periods. Such capital renewal was ultimately a favourable process, since it allowed economies to embrace and disseminate new science-based technology, leading to very significant productivity gains. This goes a long way towards explaining why the most devastated economies were often those which were able to achieve higher rates of economic growth within a relatively short period after the end of the world wars.

5.6. Investment in backward economies

To break free from the so-called vicious circle of poverty and backwardness, capital formation is vital, even in order to obtain advanced technology (often embodied in the form of capital goods). However, as was said earlier, the urgency of current consumption leads to underinvestment in productive assets, which are determinant for sustaining economic growth. Meanwhile, the resources devoted to saving are often not allocated in such a way as to favour economic growth and

development. Saving is used to obtain gold, jewellery, real estate and inventory, often kept abroad, and hardly ever used to invest in machinery, construction, transport facilities and social overhead capital. Often, at most, the rates of growth of investment in these items (usually in the form of primitive technology) keep pace with the (high) population growth rates.

The successful experiences of certain backward economies in the 19th century (actually in the period prior to 1914), namely the USA and other New World economies and Russia, draw attention to the possibility of overcoming the difficulties in achieving domestically financed capital formation through the use of externally financed capital formation, i.e. through foreign direct investment, thanks to the willingness of the more developed economies to invest abroad. These successes may be interpreted as a consequence of very reduced investment risks. Capital flows followed the same direction as human migrations, the gold standard reduced transaction costs, special protectionist devices (i.e. quotas) were absent, and government confiscation of foreign assets was almost unthinkable. Anyway, it must be stressed that, even in those quite favourable times, foreign financing was not a universal panacea for a shortage of capital.

International and national conditions changed after 1914. International monetary and trade arrangements became less favourable, and government behaviour often became less friendly to foreign capital for nationalist reasons. The deceptive performance of the interwar years led to an attempt to create an international organization devoted to the multilateral fostering of economic development by providing financial support for sound investment projects. This was the rationale for the formation of the World Bank, decided upon at the 1944 Bretton Woods conference. Further improvement seemed to be on the way when the United Nations launched the so-called Development Decades and urged developed countries to devote at least 1% of their gross domestic product to supporting development processes in less developed countries. However, private capital often remained suspicious, except in the case of countries that could pledge seemingly valuable assets such as oil reserves; and even these prudent commitments were sometimes a bad choice, as the recurrent Mexican debt crises show. At the same time, most backward economies failed to create institutional environments favouring the efficient use of foreign capital, namely high levels of education, suitable economic policies, property rights, etc.. Non-Government non-profit Organizations (NGOs) also came out into the field during the last few decades of the 20th century, but their aid has also been insufficient. For a large number of less developed economies, these setbacks ended up creating a serious problem of indebtedness, which became more acute when short-term external disequilibrium became widespread after the 1970s and especially in the 1980s.

6. Public demand

6.1. Introduction

Previous sections have already considered the main trends related with the aggregate evolution of public demand. Thus, we know that:

(i) There was an absolute increase in public demand, contributing to the significant rise in the standards of living.

(ii) There was a relative increase in public demand until the mid-20th century, because public goods increased as against private goods. During the second half of the 20th century, public demand tended to stagnate, or even to experience a slight decline, in the most developed countries[43].

Table 6.1 illustrates the evolution in the ratio of public consumption to total demand throughout the period of modern economic growth.

Table 6.1 – Ratio of public consumption to gross domestic product

year	1870	1913	1950s	1960s	1970s	1980s	1990s
Germany	4	7	14	12	14	14	12
Great Britain	3	6	17	17	21	19	20
Italy	8	4	12	14	15	17	18
USA	4	5	18	18	17	17	15

Source: Kuznets, 1966 and Eurostat.
Figures in percentages.

Similar data for public investment are not available[44].

As already explained in section 3 above, the relative rise in public demand may be explained by three main factors:

a) Public goods are superior goods, thus showing an income elasticity of demand higher than one (at least until the mid-20th century).

b) Demand for public goods is price inelastic. Thus, expenditure on public goods increases when their cost increases.

43 In fact, in most capitalist economies (let alone centrally planned economies) the stagnation or downward trend in public demand only asserted itself late in the 20th century, or even remained unapparent until the very end of the century. Italy is a case in point.

44 It should be borne in mind that part of the consumption expenditure included in table 6.1 is in fact public investment.

c) Preferences seem to have changed in favour of public goods (once again, at least until the mid-20th century). As will be seen in this section, wars and preparations for war, the wish to develop what is usually known as the welfare state, and the impact of socialist doctrines are the main factors that may be cited as crucial in shaping this greater preference for public goods.

6.2. Composition of public consumption

The European system of national accounts (SEC 1995) recommends the classification of public demand according to the following fourteen items:

(1) General services of public administration
(2) Defence
(3) Order and security
(4) Education
(5) Health
(6) Social security
(7) Housing and urbanization
(8) Leisure, culture and religious affairs
(9) Fuels and energy
(10) Agriculture, forestry, hunting and fishing
(11) Industry and public works
(12) Transport and communication
(13) Sundry economic items
(14) Sundry items

Table 6.2 gives an idea of the structure of public demand in Europe at the end of the 20th century.

Table 6.2 – Structure of public consumption in Europe

	B	DK	D	EL	E	FR	IRL	I	L	NL	A	P	FIN	S	UK
public administration	?	8	8	?	6	?	15	12	?	?	?	8	?	?	5
order and security	?	2	4	?	7	?	6	5	?	?	?	8	?	?	6
defence	?	4	4	?	5	?	6	5	?	?	?	7	?	?	9
education	?	16	11	?	16	?	16	13	?	?	?	21	?	?	15
health	?	11	17	?	18	?	19	15	?	?	?	16	?	?	17
social security	?	59	56	?	49	?	38	50	?	?	?	40	?	?	47

Source: Eurostat
Key: B=Belgium; DK=Denmark; D=Germany; EL=Greece; E=Spain; FR=France; IRL=Ireland; I=Italy; L=Luxembourg; NL=Netherlands; A=Austria; P=Portugal; FIN=Finland; S=Sweden; UK=United Kingdom.

Although published statistics are not as detailed as is generally recommended, even for recent periods, because they only include the first six items, they make it possible to draw a general picture of the structure of public demand in contemporary Europe. The most striking feature is the overwhelming importance of social security. It always comes in first place, clearly ahead of any other item, sometimes even exceeding half of total public demand. Education and health usually take second and third places. Which of these is the more important public expenditure varies from country to country, and it seems impossible to find any general rule on this matter. The general services of public administration usually come in fourth place, leaving order and security and defence in the last places.

Similar, relatively comprehensive, data for earlier periods are not available. Nonetheless, it is possible to have some idea of a few basic facts about the evolution of public consumption during the period of modern economic growth.

6.3. Main trends in the composition of public demand

There are two main trends that appear as characteristics of the evolution in the structure of public demand during the period of modern economic growth:

(i) Fluctuation in the shares of civilian and military goods according to the political situation.

(ii) Relative increase in the shares of 'modern' civilian functions as against 'traditional' civilian functions.

6.3.1. War and peace

The main aspect of today's structure of public demand that changed significantly during the last decades in Europe is the importance of military expenditure.

Before the mid-20th century, the largest European countries – Great Britain, France, Russia (later the Soviet Union after the 1920s), Austria (until the dissolution of the Hapsburg Empire, as a consequence of the First World War), Prussia (and later Germany, after the unification of 1871), and even Italy (after the unification of 1861) – competed for world power, or at least dreamt of it. At the same time, most of the medium-sized and small European countries felt compelled to be able to deter or resist threats from neighbouring countries, or even to intervene in colonial affairs. This implied a huge effort on the part of state exchequers to pay for troops and arms, to prepare for war and often to fight a war. As a matter of fact, there were a lot of wars in Europe during the period of modern economic growth. Table 6.3 presents the list of those wars which involved at least some of the six great powers mentioned above on either side during the period of modern economic growth. The list would become much more extensive if those wars in which the great powers did not confront one another were added. Anyway, in a total of 156 years, 43 years (28%) witnessed a major European war.

Table 6.3 – Major European wars (1789-1945)

Revolutionary and Napoleonic Wars	1791-1815
Crimean War	1855-1856
Wars of Italian Unification	1859-1861
Austro-Prussian War	1866
Franco-Prussian War	1870-1871
First World War	1914-1918
Second World War	1939-1945

Source: Kennedy, 1998.

The World Wars of the 20th century brought an end to the era of European dominance in the world. The overwhelming military superiority of the United States of America and the Soviet Union during the period of the so-called Cold War (1945-1991) forced European countries to take refuge under the protection of the superpowers within the NATO (North Atlantic Treaty Organization) and Warsaw Pact alliances, although some of them were allowed to maintain neutrality. As it happens, the armed forces of the typical European country did not matter much in the balance of global power, and they were useful only as a threat of local and limited nuisance to any potential initiative

of a superpower[45]. Thus, while the two superpowers were involved in an arms race that, together with armed interventions abroad, such as the American interventions in Korea (1950-1953) and Vietnam (1963-1973) and the Soviet intervention in Afghanistan (1979-1987), increased their military budgets even further, European countries were able to reduce the relative importance of their military expenditure[46].

The situation did not change much with the end of the Cold War. The only significant difference was that there remained only one superpower (the United States of America), and that local threats to the stability of the continent emerged – the main cases being in the Balkans and the Caucasus. However, no European country seems ready to devote a high proportion of its gross domestic product, or even of its public expenditure, to defence purposes, in spite of, or perhaps even because of, projects to build a common force for the European Union.

6.3.2. Traditional state and modern state

According to the classical formula of Adam Smith, the appropriate tasks of the government besides defence are justice and the maintenance of useful works and institutions which are unable to provide a profit for a private investor. This is a very elastic formula, but the 19th-century ideals remained rather minimalist until a later period. Public works, education and administration, the three 'useful works and institutions' discussed by Adam Smith in chapter I of book V of the Wealth of Nations were the only ones recognized as being acceptable, and even these were kept at a low level, partly because of the wish to keep the influence and interference of the state at a reduced level.

The situation changed completely during the 20th century, especially as a consequence of the world wars (see figure 6.1). As a matter of fact, the possibility of mobilizing huge resources and applying them (more or less) effectively to a particular purpose was clearly demonstrated; and promises of a 'world fit for heroes' (to quote the formula used by the British Liberal Party during the First World War) were often part of the package displayed to encourage the masses to endure the sacrifices of a bloody and enduring conflict. Thus, schemes to provide what would later be called the welfare state were put forward in the wake of the central planning of the economy during the world

45 Two old European great powers – Great Britain and France – maintained a small number of atomic weapons and long-range navy and air force units, also because they maintained small overseas territories, such as the Falkland Islands and some Caribbean possessions in the British case, and Cayenne, Guadeloupe, Martinique, Réunion, New Caledonia and Polynesia in the French case. Nonetheless, even these two countries were still able to reduce the relative importance of their military expenditure.

46 There were a few exceptions, especially in cases of medium or small-sized communist countries which sought to mark out some geopolitical distance from the Soviet Union. Yugoslavia, Albania, and even Romania, were the most conspicuous cases.

wars. The result is plain to see. Even in the United States, usually considered as the symbol of laisser-faire capitalism, social security represented almost two fifths of federal public expenditure in 1996 (39%), while health represented almost one fifth of federal public expenditure (19%), both of them exceeding defence (17%), which was clearly higher than in Europe, as would be expected in the main world power[47].

The Great Depression of the 1930s added to these welfare concerns the question of short-term anti-cyclical economic policy. As Lord Keynes put it, it is useless for the captain of a ship in the midst of a storm to know that once the storm is over the sea will be calm again. To avoid sinking, something must be done. In other words, something must be done to avoid large-scale human suffering and social unrest because of high unemployment. Stimulation of economic activity by means of budgetary and monetary policy was the Keynesian answer, which triumphed during the third quarter of the 20th century.

Last but not least, socialist ideals, already alive during the 19th century, supported income and wealth redistribution as a cure for the unjust features of capitalist societies. Implementation of these ideals after the First World War was linked to the development of the welfare state in the so-called socialist and social-democratic experiences, which gradually became more widespread between the First World War and the 1970s. A quite different path was followed by the Soviet Union, because its socialist experiment had the additional task of industrializing a rather backward economy. The relative success of the Soviet experiment in driving one of the most important countries of the world from Czarist underdevelopment to the forefront of technological achievement in a few decades[48] pointed to another possibility: to use state intervention to develop a country. This procedure was copied by many countries, especially less developed countries during the second half of the 20th century.

All this led to widespread confidence in the potentialities of state intervention in the economy, a procedure that was followed in practice, at least until the failure to deal with the stagflation crisis that developed in the wake of the first oil shock in the mid-1970s. Such practice gave rise to relatively sizeable sectors of public enterprises and resulted in attempts at indicative planning in most capitalist economies. The last quarter of the 20th century saw the denial of all the arguments that supported state intervention by more or less radical anti-interventionist currents, and also a clear slowing down, or even a slight reversal, of the traditional trend to increase the importance and influence of the state in the economy. Not surprisingly, 'modern' functions, such as social security,

47 Note that the American federal government has very low levels of expenditure on education and security, as these public goods are mainly provided at the individual state and local levels.

48 Of course, Czarist Russia was not as underdeveloped as is often stated, and the success of the Soviet Union had many drawbacks, but it is undeniable that, for instance, the first artificial satellite (1957), the first probe to reach the Moon (1959), the first astronaut (1961), the first space station (1969) and the first unmanned lunar expedition which returned Moon material to Earth (1970), were all Soviet achievements.

health and anti-cyclical economic policy, were the main targets of the critics. Not surprisingly also, the practical effects, although not negligible, were far from achieving the ideals advocated by the more radical tenets of non-intervention.

6.4. Centrally planned economies

As stated above, private consumption of private goods and private investment in socialist centrally planned economies represented a relatively small percentage of gross domestic product, especially when compared with capitalist market economies.

The reverse situation is apparent in the case of public demand for different, cumulative reasons. Firstly the importance of the bureaucratic element in the socialist regime, which required huge expenditure on public administration. Secondly, the authoritarian regime and the cold war also implied huge expenditure on defence, order and security. Thirdly, one major achievement of the socialist economic system was to ensure widespread basic economic welfare, namely the provision for everyone of free healthcare, free education, an extensive public pension system, low-cost housing and the subsidizing of consumer prices[49]. Fourthly, a significant proportion of productive activities were under state control or ownership, thereby raising public expenditure, even in cases other than investment.

Table 6.4 – Collective consumption of welfare as a percentage of gross domestic product in 1976

centrally planned economies	education	health	general welfare
Bulgaria	4	3	10
Czechoslovakia	4	4	16
East Germany	5	5	12
Hungary	3	5	12
Poland	3	3	7
Romania	3	2	5
Soviet Union	4	3	9

market economies	education	health	general welfare
Austria	5	5	21
Italy	5	6	15
USA	5	3	11
West Germany	4	5	21

Source: Kornai, 1992.

49 Note, however, that according to Kornai (1992: 314), collective consumption – education, health and welfare – as a proportion of gross domestic product in the 1970s was higher in highly developed capitalist countries (see table 6.4).

The relative increase in the shares of 'modern' civilian functions, namely those related with the economic, social, cultural and scientific areas are also very apparent in the modern command economies of the socialist type[50].

The main difference in terms of state investment spending between market economies and command economies lay in the financing of the state-owned firms, since in the latter the share of the investment financed by bank credit or the self-financing of firms was negligible. The state budget financed almost all the investment for the state-owned firms, the overwhelming majority in general, and particularly in the most capital-intensive productive activities, identified as 'driving' sectors by planning authorities.

6.5. War economies

As for war economies, it is needless to say that, during war periods, public consumption tended to rise significantly. Of course, it was mainly military expenditure that tended to rise as against economic, social and cultural items, while traditional civilian functions were preserved in absolute terms, despite losing ground in relative terms. Public investment went mainly towards, transport, buildings and constructions and machinery.

7. Foreign trade

The degree of integration of the different parts of the world increased significantly, together with the process of modern economic growth itself and with its geographical spread. It is now fully acknowledged that such integration has had a decisive and positive impact on growth and on domestic demand (both consumption and investment) in general, although the situation remains such that the smaller the economy is the larger are the expected benefits. We will review here the main technological, organizational and institutional innovations responsible for deeper economic integration within the world economy and the basic trends in international economic relations during the period of modern economic growth. We will attempt a more detailed analysis in order to ascertain the constitution of the world economy through the different processes of economic integration.

50 In the USSR, these items, including investment, represented more than 85% of the total state budget expenditure in the 1970s and 1980s.

7.1 . The bases for closer international economic relations

7.1.1. Technological innovations

The two main sectors whose technological (and organizational) innovations have most directly contributed to the strengthening of international economic relations are the transport and communication sectors. We will not describe those innovations here, as it is our aim simply to underline their impact, particularly on the trends in international economic relations.

As far as transport is concerned, its technological changes mostly depended on the progress of many industries, namely the steel, machinery, electrical and energy industries. These produced cheaper and better materials to make transport equipment of greater capacity and reliability, as well as cheaper, more available and diversified sources of power with which to propel them, with significant improvements in both speed and costs.

As far as organizational innovations are concerned, the ones relating to industrial transformation processes in general, mentioned in section 1.1.5 on institutional factors, are also relevant in the case of transport manufacturing. Four other specific innovations should also be mentioned: i) the spread of schemes for the concession of the business of collecting tolls linked to the obligation of building and preserving roads; ii) the organization of rail transport exclusively by the operating company, which controls both the production and the operation of trains along the whole line; iii) the arrangements made by navigation and air transport companies for sharing business and deciding upon the rules of competition; iv) the fixing of transport timetables.

To sum up, the main direct consequences of these innovations in the transport sector were a significant decrease in freight charges and a significant decrease in the time required to transport resources and goods. As a result, on the one hand, consumer prices also decreased while the standard of living (real income) rose; on the other hand, the economic accessibility of the different regions increased, unleashing the effects of regional production specialization, which affected the previously existing relevant economic spaces (see section 7.3 below).

From the demand point of view, transport innovations led to significant stimuli for a broad spectrum of industrial sub-sectors, ranging from mining for the supply of fuels to manufacturing (particularly steel), machinery, electrical and transport equipment for the supply of rails, vehicles and locomotives, and building and construction for the supply of infrastructures.

As far as communications are concerned, their main technological and organizational innovations have been directly connected with the appearance and development of telecommunications in a broad sense. Until the development of modern communications, messages were restricted, at least for practical purposes, to the speed of transport. Acoustic and optical long-

distance communication devices were known before modern economic growth, but they were unable to reproduce written or oral messages with precision.

From the organizational point of view, most means of communication in general, both private – mail, telegraph, telephone – and social – press, radio, television – and telecommunications in particular were until very recently, for technical and economic reasons, natural monopolies[51]. The coordination of radio and TV bands, international mail services, computer networks and the use of satellites, are all examples of the importance of special organizational solutions for the provision of these goods and services, many of which are regulated by the state.

The two main direct consequences of these innovations in the communication sector were: i) a significant increase in access to information, coupled with a significant decrease in its cost[52], which raised economic efficiency in general, since economic decision-makers became better equipped and more immediately informed; ii) the development of advertising, which in itself has turned into an increasingly prosperous sector and has played a decisive role in financing social communication. Advertising has been shaping consumer preferences and, in so doing, has also shaped demand patterns and promoted their convergence.

Since, for technical reasons, most communication networks have become internationalized, the above-mentioned effects have been positively reflected in the regional division of labour and consequently in the volume of foreign trade, as well as of capital and labour movements.

7.1.2. Organizational and institutional innovations

While technological and organizational innovations in the transport and communication sectors significantly reduced physical barriers to trade and, in general, to inter-regional economic relations, other organizational and institutional factors became important mechanisms for controlling the intensity of those relations and especially for the creation of a true world economy before the First World War (see section 7.3 below).

Among others, trade doctrines and practices, and monetary and financial arrangements, must be emphasized as relevant institutional mechanisms that have influenced international economic relations.

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51 Technically, a 'natural monopoly' is the economic condition attained by one firm with a very large output, which can always produce more cheaply than its smaller competitors and so drives them out of business, thanks to the existence of economies of scale, even in the long run. 'Economies of scale' exist when a larger output is associated with a lower average cost.

52 Using data provided by the World Bank and the IMF, *The Economist* (18 October 1997) stated that between 1975 and 1995 the cost of processing information by computer technology fell at a rate of roughly 30% per year in real terms and that in 1996 the price of a 3-minute telephone call between London and New York was only $1 as opposed to $300 in 1930 at 1996 prices.

7.1.2.1. Trade doctrines and practices

Free trade versus protectionism has continued to be a central issue throughout the period of modern economic growth. Free trade supporters actually have only one argument: according to classical and neoclassical economics, the market is the only efficient economic regulating device, while state intervention, in the form of protective tariffs or quotas, introduces distortions in terms of price and quantity, which have negative consequences for welfare. This argument states that the regional division of labour according to the principles of absolute and comparative advantage will enhance the productive opportunity set of all the economies involved, and so allow for higher standards of living everywhere[53].

The supporters of protectionism have amassed arguments in favour of the use of protective tariffs or other non-tariff protection mechanisms. Many are now acknowledged as grossly fallacious arguments, others less so. Among the latter are the following: i) protectionism may be useful for non-economic reasons: for instance, it may reduce the political risk of an overly strict specialization; ii) protectionism may be useful for its long-term economic effects: for instance, temporary tariffs to protect 'infant industries'[54] may create efficient industries in the long run; iii) even from a strictly economic and short-run perspective, protectionism may help to reduce unemployment in certain circumstances[55].

As far as practices are concerned, pre-modern economic growth economies were usually highly protectionist. The first phase of the tendency towards free trade lasted from the 1840s to the 1870s, and was led by Great Britain, which practically abolished all tariffs. Protectionist policies were reintroduced during the last decades of the 19th century and the first half of the 20th century, although at inferior levels when compared to the previous protectionist period. The interwar period in particular was characterized by quite aggressive trade policies and the building up of trading blocs, especially ones based on imperial preferences. A second free trade phase was to return a century after the first one, i.e. appearing after the Second World War and lasting until the 1970s. It involved almost all national market capitalist (more or less regulated) economies, although it excluded socialist centrally planned economies. Between the 1970s and the 1990s, there was a certain return to protectionism, although, once more, the protectionist levels of the interwar period were not repeated. The last decade of the 20th century and the early 21st century have apparently again

53 For a synthetic explanation of comparative advantage theories, namely Ricardo's and Hecksher-Ohlin's model, Stolfen-Samuelson's theorem and some case studies, see Foreman-Peck, 1995.

54 Broadly speaking, an 'infant industry' is not competitive, i.e. it has higher absolute or relative costs in the short run. Thus, protecting it involves a short-term welfare loss for the country. However, if the infant industry is able to mature and become absolutely or relatively competitive, it may become a significant element in determining the level of development, whilst also contributing to the country's welfare.

55 Thus, it may help to solve social problems, even at the expense of losing some economic efficiency and welfare.

shown a tendency to move back towards free trade, in the context of the processes of economic transition from late socialist economies and the formation of the World Trade Organization[56].

It is interesting, but not surprising, to realize that periods of general economic prosperity are also periods of relatively free trade policies. On the contrary, periods of recession and depression tend to be associated with relatively high levels of protectionism. It may therefore be argued that free trade promotes economic prosperity, while protectionism brings recession and depression. It may also be argued (the other way round) that short-term economic and social problems, inherent in the inevitable reallocation of resources brought about by the intensification of the regional division of labour, together with freer trade, are minimized in a context of economic prosperity, but become unbearable in periods of recession and depression.

7.1.2.2. Monetary systems

At the beginning of the period of modern economic growth, the more complex economies which had developed significant exchanges of resources and final goods between one another, had monetary systems based on either gold or silver, or, more commonly, on both. Gold, silver or bimetallic standards meant fixed exchange rates – in a context of free trade in gold and silver – whose parities were determined by the metal content of each country's monetary unit. By the end of the 19th century, the gold standard was clearly predominant, but the bulk of the means of payment was beginning to be made through banknotes instead of gold coins. However, banknote convertibility into gold coins on demand ensured that this kind of gold-standard functioned in the same way as the traditional metallic monetary systems based on fixed exchange rates. In some countries (Great Britain was the most conspicuous case), bank deposits were already becoming the main means of payment.

Naturally, some countries had inconvertible currencies and, consequently, floating exchange rates, either temporarily in the case of financial or political crises (e.g. when triggered by a war), or more permanently in the case of structural economic difficulties. Some peripheral countries (China was the most conspicuous case) remained linked to the old silver standard.

Briefly, it is important to answer two relevant questions concerning the gold standard: i) why did most countries end up adhering to it during the last decades of the 19th century?; ii) why was its

56 It is interesting to note that there were cases and periods when protectionist measures (significant increases in import duties) appeared to have very little impact on actual trade (imports still increased, for instance). This is the case when there are specific duties imposed on commodities (that is to say, duties consisting of a fixed sum charged per amount of commodity) and the international prices of these commodities decrease significantly. In the last decade of the 19th century and the beginning of the 20th century, corn was an important example of this phenomenon for some European countries that could not avoid the imports of cheaper USA corn.

spread considered to be a decisive institutional factor in intensifying international economic integration?

Three reasons lay behind the evolution towards the gold standard. Firstly, the spread of banknotes and bank deposits as a means of payment reduced the fear of a liquidity shortage, an argument usually put forward for retaining the system of bimetallism. Secondly, the price instability caused by the supply shocks arising from the discoveries of silver deposits, particularly in Nevada (USA) and the mining industry, significantly altered the weight ratio of silver to gold and made silver a less comfortable and credible standard. Thirdly, the fact that the most developed countries in the world and, in particular, the hegemonic power – Great Britain – had adhered to gold.

The most important advantage of the use of the classical gold standard in international payments had to do with the positive effects of stable exchange rates, namely the decrease in transaction and information costs. The stability of exchange rates facilitated adjustments of the balance of payments and the convergence of interest rates, and helped price stability.

The gold standard collapsed in Europe when the First World War broke out, and the USA was the only country that was to continue using the classical gold standard until 1933. As would be expected in a context of political crisis, banknote convertibility was suspended. Two diverging forces ensured that the suspension was not only temporary: i) belligerent governments, facing war expenses and deficit finance, ordered central banks to make huge fiduciary issues; ii) there were huge flows of gold reserves, especially to the USA, because of the need to pay for imports.

The efforts made after the war to return to monetary and financial normality, namely convertibility, were only relatively successful, partly because of the disproportions existing between banknote issues and gold reserves, partly because many countries had to pay either war debts or reparations and could not immediately afford to adopt deflationary policies, partly because confidence in the ability of central banks to guarantee convertibility was at a low level. In 1922, in Genoa, an arrangement was attempted to resume convertibility and to stabilize exchange rates. The result was the so-called gold-exchange standard, which economized on gold. When France and Britain decided to stabilize their currencies, they returned to the use of gold, but they only guaranteed a restricted and limited convertibility. Most countries, however were not able to ensure direct convertibility into gold. They declared full convertibility of their currencies into some other currency directly convertible into gold, namely the American dollar, the British pound or the French franc.

These efforts would be short-lived. The great depression of the early 1930s led to the introduction of protectionist measures, including devaluations and the breakdown of the gold-exchange standard. The British pound was devalued in 1931, the American dollar in 1933 and again in 1934, the French franc in 1936, just to mention the currencies which sustained this first short period of the gold-exchange standard.

A similar scheme was to characterize the international monetary scene from the mid-1940s to the early 1970s, the so-called Bretton Woods system, actually a dollar standard. The USA was the only country that guaranteed external convertibility and no country guaranteed domestic convertibility.[57] There were fixed parities among the currencies, and these parities could only be changed under circumstances of a structural imbalance in foreign payments. Short-term deficits had to be corrected with fiscal and monetary measures. A new international organization, the International Monetary Fund (IMF), was created. It registered the fixed parities and provided credit to overcome short-term difficulties. However, in order to obtain financial assistance from the IMF above certain levels, countries had to comply with stabilization programmes.

This second period of the gold-exchange standard was longer lived than the first, but, even so, it did not last. The USA's increasing external payments disequilibrium after the 1960s led the USA to abandon gold convertibility in August 1971 and to put an end to the gold-dollar standard of the third quarter of the 20th century. Since then, inconvertibility and floating or flexible and managed exchange rates[58] have been the norm.

It is interesting, to realize that, at least after the First World War, periods of general economic prosperity were also periods during which there were stable exchange rates; on the contrary, periods of recession and depression tend to be associated with floating or flexible and managed exchange rates. Again these coincidences are not surprising. It may be argued that fixed exchange rates promote economic prosperity by forcing governments to adopt sound financial policies, and floating exchange rates bring recession and depression because they allow governments to pursue unsound financial policies. It may also be argued (the other way round) that economic prosperity allows governments to refrain from deficit spending and other monetary stimuli for the economy and to maintain fixed exchange rates, while periods of recession and depression force governments to

57 To be precise, the Federal Reserve Bank of the United States guaranteed convertibility to the central banks of the member countries of the International Monetary Fund. The Bank of England aspired to playing a similar role, but an attempt to do so in 1946 convinced the British authorities that this was an impossible task. The fundamental reason for this was that, by the end of the Second World War, the United States already held around two-thirds of the world's monetary gold stock. Thus, the dollar became the dominant international currency, there was widespread confidence amongst dollar holders in the stability of the dollar's value (and the capacity of the Federal Reserve Bank of the United States to honour the convertibility commitment), while central banks (and other economic agents) began to stockpile dollar reserves (see Bordo. Eichengreen, 1993).

58 Note that fixed exchange rates must be the consequence of automatic mechanisms (as in the case of the classical metallic scheme and especially the gold-standard scheme) or central bank intervention in the market, selling or buying currency (as in the interwar and post-Second World War gold-exchange standard schemes, or, more recently, in the pre-euro European Monetary System). In the case of floating exchange rates, it is possible to allow the market to freely regulate the price of the currency, or to attempt a flexible but managed exchange rate. In this latter case, there are central bank interventions made in accordance with the decisions taken by monetary authorities (government and central bank) to either devalue or revalue their currency.

engage in deficit spending and other monetary stimuli for the economy, which are incompatible with fixed exchange rates[59].

7.1.2.3. Other institutional mechanisms

Cooperation and standardization have also been important factors in the increased integration of national economies.

International cooperation is apparent in many different aspects. The most striking of these are the intergovernmental or non-governmental schemes and agreements to promote development or rescue in the event of public calamity, and especially the international organizations designed to promote peace and economic cooperation that have grown in number and importance over the last few decades. But agreements such as the International Postal Union, which have linked most countries' postal services since 1874, and the growing number of international fairs, shows and exhibitions of commercial, industrial and technological products – starting with the International Exhibition of London in 1851 – have also played an important role.

The existence and generalized acceptance of common patterns for the assessment, design and production of goods have also contributed to a reduction in barriers to trade. The generalized acceptance of the metric system – with the creation of the International Committee of Weights and Measures in Paris in 1875 – and the standardization in the electrical industry are good examples of such processes.

7.2. International economic relations: basic trends

Economic links between the different areas of the world have been intensified during the course of modern economic growth, but the patterns of international transactions between these regions have shown significant changes. International trade, international migrations and international capital movements are the main components of international economic relations. However, it is worth underlining the importance of the international transfer of useful knowledge, and inherently of innovations (mainly technology), which have formed the basis of modern economic growth itself.

59 For comprehensive arguments on the advantages and disadvantages of the different monetary regimes, namely fixed exchange rates or floating exchange rates, see various chapters of Bordo, Eichengreen (ed.) (1993), in particular those by Michael Bordo, Alan Stockman and Richard Marston. For a general history of the international monetary systems, see Eichengreen, 1996.

7.2.1. International flows of goods

7.2.1.1. International flows of goods: basic trends

The incidence of the technological, organizational and institutional innovations mentioned above has determined the quantitative behaviour of the international flow of goods over the last 250 years.

Until the First World War, the proportion of world production that was internationally exchanged rose from 1% to approximately 5%. Such growth can be largely explained by transport and communication innovations, on the one hand, and the reduction of existing institutional and organizational barriers, on the other hand, especially from the mid-19th century onwards, firstly due to the advances made towards free trade, and later due to the increasing adherence to the gold standard.[60]

During the interwar period, the proportion of world production under international trade barely rose above 5%. Transport innovations were unable to offset the serious institutional and organizational drawbacks which arose during this period, namely the advance towards protectionism, the vicissitudes of the international monetary system and the rather radical self-sufficient economic policies of the first socialist societies adopting centrally planned economic systems.

During the third quarter of the 20th century, the proportion of world production under international trade reached 10% as a result of the positive combined effects of technological, organizational and institutional factors, in spite of the existence of an enlarged block of socialist centrally planned economies. In 1949, the socialist countries of Eastern Europe created an organization for economic cooperation – the Council of Mutual Economic Assistance, COMECON – with the aim of fostering integration among their economies. In these countries, foreign trade was subject to state monopoly. All firms could trade with the rest of the world only according to the plan for foreign trade, which stated the quantities and values of the groups of commodities that could be exported and imported.

A significant part of the last quarter of this century was again forced to endure some institutional and organizational obstacles to international trade. Tariff and non-tariff protectionist barriers, difficult and slow multilateral trade negotiations within the GATT rounds[61] and the vagaries of the

60 When computing the ratio of foreign trade to gross domestic product at a national level, exports and imports are added. However, at the world level, foreign trade flows are computed only once.

61 GATT – General Agreement on Tariffs and Trade – was set up by the Geneva conference of 1947 as the main institutional framework of international trade among capitalist market economies, until it was replaced by the World Trade Organization, set up by the Marrakesh Treaty of 1995. For a detailed history of GATT, see e.g. Rainelli, 1996.

international monetary system were only partly counteracted by the improvements in transports and telecommunications and the advances in regional economic integration and the transition to market or centrally planned economies during the last decade of the century. On the whole, the proportion of world production under international trade in the early 21st century is about 15%.

7.2.1.2. International flows of goods: basic patterns

The basic patterns of international trade may be summarized according to the productive specialization of the different economies, which basically reveal their relative advantages in terms of specific endowments. Broadly speaking, less developed countries have basically been exporters of agricultural and mineral production, depending on their relative advantages in terms of natural resources; developing economies and maturing economies have basically exported manufactured goods from traditional industrial sectors since they have acquired some advantages in terms of cumulative capital endowment; highly developed countries have become exporters of manufactured goods from leading industrial sectors and of commercial and financial services, thanks to their advantages in terms of human resources.

The assessments made of the intensification of international trade according to these patterns of specialization have been somewhat controversial. Some authors defend the idea that the consequences have been beneficial to the spread of modern economic growth, since they have contributed to a general increase in the level of economic activity and living standards; others underline the reproduction of serious development asymmetries within the world economy, preventing the spread of modern economic growth to many parts of the world.

It is probably reasonable to maintain that the effects of the intensification of international trade and specialization have been basically positive, since they have allowed for a significant increase in productivity, production and consumption, which have been important factors leading to an average increase in living standards in all phases of modern economic growth. However, there is some ambivalence in the effects of the process, for two main reasons: on the one hand, the asymmetric distribution of those positive effects is apparent, as a result of differences in the income elasticity of the various tradable goods and of changes in the terms of trade[62]; on the other hand, competition from more developed countries has actually raised some difficulties for the less developed countries.

While in western capitalist economies, the market played the role of establishing a system of coordination between different economies, in socialist countries foreign trade was mainly regulated

62 The terms of trade of an economy are defined as the ratio between export prices and import prices in that country.

by bilateral agreements, both between socialist economies and between these economies and market economies. Albeit to different degrees in the various socialist countries, competitiveness and efficiency received greater attention from the late 1950s onwards. This favoured an increase in exchanges with market economies, within the framework of export patterns centred upon raw materials and agricultural goods. The goal of increasing the export of manufactured goods to western countries was always achieved in a very limited way.

7.2.2. International migrations

7.2.2.1. International migrations: basic trends and patterns

The trends and patterns of international migrations are determined by different demographic, economic and political variables. As a rule: i) countries with relatively high demographic growth tend to become emigration areas, while countries with relatively low demographic growth tend to become immigration areas; ii) depressed and less developed countries tend to become emigration areas, while prosperous and developed countries tend to become immigration areas; iii) countries with political instability tend to become emigration areas, while politically stable countries tend to become immigration areas, although permissive or restrictive immigration policies also play an important role in the shaping of migration flows.

Until the First World War there were increasing flows of international migrations, mainly ones of European origin and directed towards America and Australasia. Population growth in Europe and the adoption of 'open door' policies by most countries in the New World were to blame. While the first important flows were from North-Western Europe, in the last decades of this period, the European peripheries (Scandinavian, Eastern European and Mediterranean countries) have taken the lead, most of the time in national contexts of a slow transition to modernization.

Table 7.1 – Intercontinental emigration

	1851-60	1861-70	1871-80
Ireland	14.0	14.6	6.6
Scotland	5.0	4.6	4.7
England	2.6	2.8	4.0
Norway	2.4	5.8	4.7
Denmark			2.1
Portugal		1.9	2.9
Germany			1.5
Switzerland			1.3
Italy			1.1
Netherlands			0.5
Sweden	0.5	3.1	2.4
Austria-Hungary			0.3

Source: Baines, 1991.
Unit – Yearly average rate per 1000 inhabitants of emigration countries in 1914.

In the interwar period, international migrations were significantly reduced as a consequence of much slower population growth rates in the Old World and the reversal of the migration policies of the traditional immigration areas in a context of international political and economic instability.

During the third quarter of the 20th century, significant migration flows were resumed with a different pattern. Most international migrations were intra-continental, originating in poor or developing economies and directed towards highly developed countries not far away. This was the case with Southern European emigrants migrating to Northern and Central European countries, or Central American emigrants migrating to the USA. This again depended on the differences in national rhythms of population growth and the interest that developed countries had in attracting a new labour force.

In the last quarter of the 20th century, in a context of general economic slowdown and unemployment, restrictive migration policies were the rule in developed countries. Meanwhile, many countries which used to be the source of migration flows sustained their economic growth and reduced their rates of demographic growth. This was the case with the Mediterranean European countries. Meanwhile, some countries in Asia and Africa, which used not to be emigration areas, experienced significant rates of population growth and, simultaneously, endured political instability and poor economic performance, thus leading to significant outward flows of migrants to Europe, the Middle East oil-producing countries and Japan.

7.2.2.2. International migrations: basic consequences

The demographic consequences of international migration, for both sides, are easy to recognize in general, in terms of the rhythms of population growth, population density and population age structures. Emigration countries reduced population growth and density and acquired a more aged population. Immigration areas increased population growth and density and acquired a younger population.

As far as economic effects are concerned, international migrations imply a change in the availability and relative cost of production factors. Usually they contribute towards raising wages and creating remittances with positive microeconomic and macroeconomic effects for emigration countries. These positive effects may be relatively offset in qualitative terms by the loss of human resources that are above average in the origin country, both in terms of their formal education and in terms of entrepreneurship[63]. Of course, immigration areas witness a decrease in wages and an outflow of immigrants' remittances. These negative effects may be relatively offset by the easier work of many economic activities faced with labour shortages, especially those involving low-paid and socially less-praised jobs. Of course, it is supposed that both emigration countries and immigration areas profit from the changes taking place in the relative proportions of the different resources used in the context of the same production functions.

7.2.3. International flows of capital

7.2.3.1. International flows of capital: basic trends and patterns

The incidence of the technological, organizational and institutional innovations mentioned above, as well as the different capital endowments of the different national economies, have determined the quantitative behaviour of the international flow of capital over the last 250 years.

Until the First World War, there was a significant increase in international capital movements basically from Great Britain, at first, and later from other highly developed European countries (where capital was in excess) towards the rest of the world, especially towards the overseas territories with populations of European origin, where investment opportunities were apparent. The progressive adherence to the gold standard was an element that facilitated monetary transactions. In this period, the lending and investment of capital was basically a private business.

63 The average level of education and health of emigrants is generally above the average of the population of the origin country. In the 19th century, literacy and good health were pre-requisites for legal immigration to the USA.

During the interwar period, international capital flows were significantly reduced as a consequence of the international context of political, economic and financial instability. Investment security fell significantly as a result of international political tensions, the increasing incidence of foreign property nationalization practices and the repudiation of debts. The instability of the international monetary system was also detrimental to the confidence of foreign investors and lenders. Meanwhile, the lending and investment of capital increasingly became a state matter.

During the third quarter of the 20th century, capital movements again increased significantly, flowing from highly developed economies to developing economies. The same types of elements, which had been behind the increase in capital movements in the decades before the First World War, operated in a similar fashion, now under the Bretton Woods monetary system. From this period onwards, international organizations began to play an important role in this matter.

In the last quarter of the 20th century, some institutional factors, especially those relating to monetary and financial disarray, in a context of economic slumps, with the nationalization of foreign property and the repudiation of debts, contributed towards a relative contraction in capital movements for a considerable period of time. However, more recently, technological innovations in the telecommunications field and national institutional changes in leading economies, particularly the end of controls over the movement of capital, have produced a rather speculative and barely controlled flow of capital all over the world, which has given rise to serious international economic and financial disorder.

7.2.3.2. International flows of capital: consequences

Traditionally, assessment of the effects of international capital movements has tended to underline the benefits to the lender or investor country, which obtained higher profits for its capital investments abroad, and to point out the ambivalence of the effects in the destination countries: some benefited from larger capital endowments, which were determinant for a successful process of development, while others became controlled by foreign economic entities.

Probably the actual truth of the matter is the other way round. Higher profits were probably needed just to compensate for higher risk. Moreover, investing abroad inevitably reduces domestic capital endowment, which is often detrimental to economic growth in the investor country. On the other hand, the availability of capital endowments in poor or developing economies must always be potentially beneficial; the problem lies in the possible inadequate use of imported capital as a result, for example, of a poor institutional environment, or a lack of human capital.

7.2.4. The worldwide stock of useful knowledge

The relevant types of knowledge and techniques for sustaining economic growth are easily disseminated and accumulated transnationally. The spread and intensification of modern education is the necessary means for sharing and contributing to the worldwide stock of useful knowledge (see table 7.2). Technological and organizational innovations, based on cumulative tested knowledge, took place in different national economies during the period of modern economic growth in 'leader' countries and were disseminated to other areas ('follower' countries) mainly embodied in the form of durable objects – physical capital, books and computational devices – in which additional knowledge was easily accumulated and acquired through international trade and, more recently, communication networks.

Table 7.2 – Improvement of human capital: average number of years of formal education enjoyed by the population aged 15-64 (gender average)

	USA	Japan	Great Britain
1820	1.75	1.50	2.00
1870	3.92	1.50	4.44
1913	7.86	5.36	8.82
1950	11.27	9.11	10.60
1973	14.58	12.09	11.66
1992	18.04	14.87	14.06

Source: Maddison, 1995.

7.3. The world as a world-economy: the different processes of economic integration

During the period of modern economic growth, and as a direct consequence of the inherent technological, organizational and institutional innovations, a remarkable acceleration has been apparent in the process of the economic integration of the different economic spaces which composed the world in the 18th century. This may be considered a geographical innovation.

During the last 200 years, two particular periods have been recognized as determinant for the consolidation of that process, namely the last quarter of the 19th century and the last quarter of the 20th century. Though the latter – the so-called globalization process – has attracted a great deal of attention lately, the former was probably the most decisive; it led to the formation of the world economy as the only global economy in the world.[64]

64 See Hirst; Thompson, 1996. Of course, the existence of a world economy does not mean that there are no relevant partial spaces within the world economy, either for geographical reasons (different places have different local natural

7.3.1. The world in the 18th century

In the 18th century, the world was divided into many global economies, meaning practically self-sufficient spaces in terms of basic goods. These can be classified into three different types according to their degree of economic and social complexity and, inherently, their demographic and economic size:

1) Predatory local economies, whose main economic activities were of the hunting-gathering type, which had no sectoral or regional division of labour, and where routine was the normal basis of economic coordination.

2) Cultivation-based local economies, whose main economic activities were agriculture or cattle-breeding, which had no sectoral or regional division of labour, and where routine was still the normal basis of economic coordination. Some had already undergone an urban revolution and so had begun to make some division of labour, which in turn fostered productivity increases; command and market coordination schemes would subsequently interfere with the routine mechanism.

3) Agricultural world-economies, whose main economic activities were still agriculture and cattle-breeding, but which already had a relatively complex sectoral and regional division of labour and were able to achieve relatively high levels of productivity. Command and market schemes were already decisive coordination mechanisms[65].

The world-economies existing in the 18th century can be divided into two types:[66]

3.1) Empires or tributary world-economies, where economic and political spaces coincided and the command mechanism was the predominant coordinating device. The Russian, Ottoman, Chinese and Mogul (Indian) Empires were the largest ones.

3.2) Capitalist world-economies, which embraced several independent states within its space and where the market mechanism was the predominant coordinating device. The Euro-Atlantic world-economy, including Europe (except for Russia and the Balkans), the European colonies in the New World and their African trading posts, was actually the only example of this type of economy.

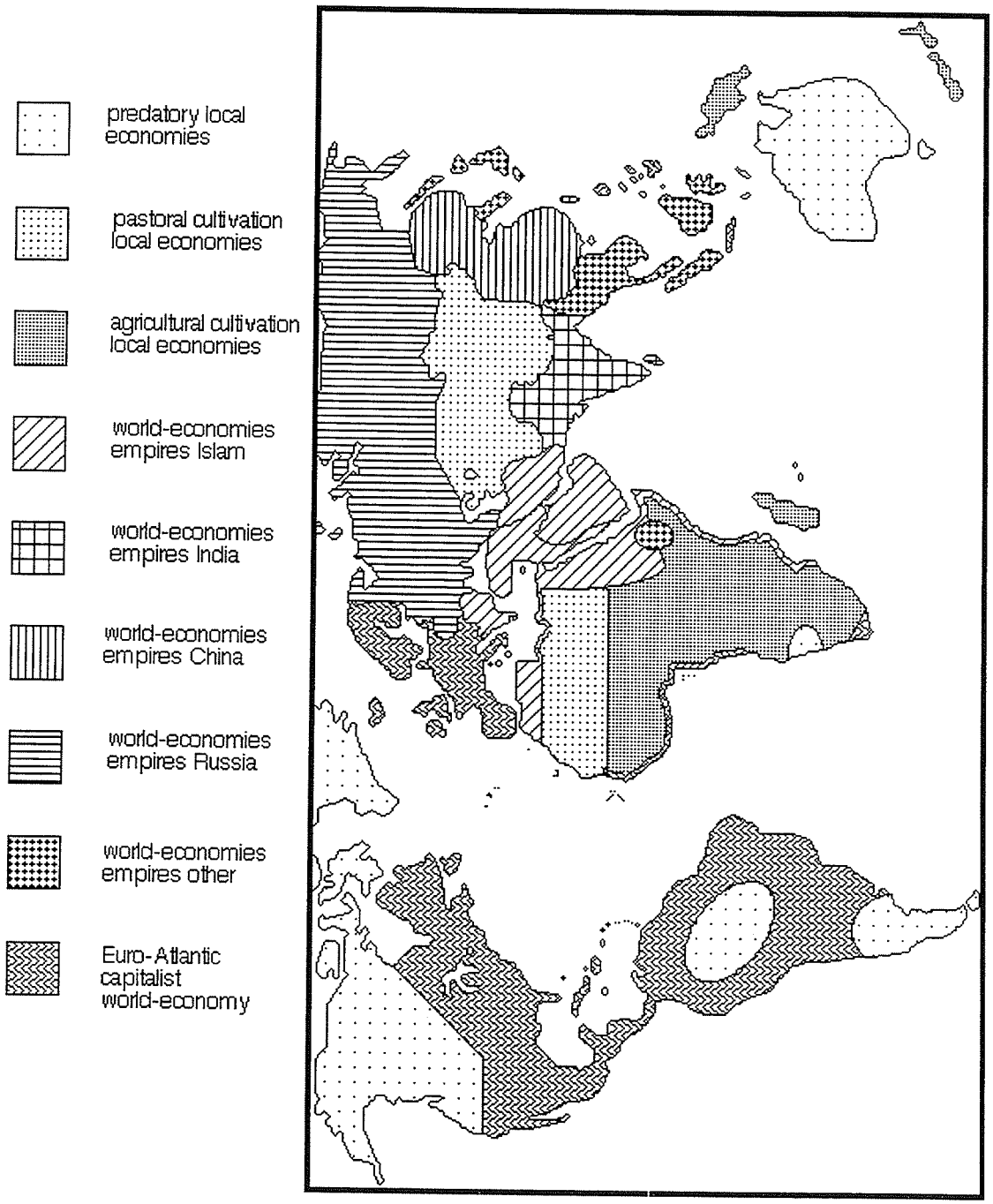
resources, are differently populated and have become endowed with different produced resources as a result of local economic history) or for institutional reasons (national economies are characterized by specific legal, fiscal and monetary regimes, specific economic polices, and barriers to the movements of goods, people and capital, although formal economic integration processes may reduce such institutional particularities).

65 Regarding the categories of economic coordination used in this classification, see the classical study by John Hicks – Hicks, 1969. Briefly, in economies based on routine, the individual plans of economic agents are fulfilled through the repetition of already experienced actions; in command economies, individual plans are coercively coordinated by a previously defined macro-plan issued by some central authority; in market economies, coordination between economic agents is based on prices and budget constraints.

66 For the different categories of world-economies and world economies, see the classical works by Braudel, 1979, Braudel, 1987 and Wallerstein, 1974,1980,1990.

Map 7.1 shows the geographical distribution of these economies in the world of the 18th century.

Map 7.1 – The world in the 18th century



7.3.2. The different processes of economic integration

The Euro-Atlantic world-economy led the process of integration of the other global economies co-existing with it in the 18th century. It is beyond the scope of this work to explain in detail how it accumulated the relative advantages which allowed for its leadership. Anyway, the decisive factor was that its central areas, namely North-Western Europe, were the first economies in the world to achieve modern economic growth, creating and disseminating the means to intensify international economic relations.

Chronologically, the process of integration started with the integration of the more complex economies, the tributary world-economies, and only later did it involve cultivation-based and predatory local economies. Anyway, by the beginning of the 20th century, it was possible to depict the existence of a true world economy.

7.3.2.1. The integration of the tributary world-economies: voluntary versus enforced processes

There were two distinct types of processes in the integration of empires in the 18th and 19th centuries into the Euro-Atlantic world-economy. In some cases, integration was the result of a common, voluntary effort as both economies gained significant advantages from tightening their economic relationship and bringing themselves closer together. In most cases, however, the tributary world-economies were compelled by the capitalist world-economy to open up their economies.

Probably the only case of a truly voluntary process was the case of the Russian world-economy, a vast and expanding empire since the 16th century, seeking, during the 18th century, to expand westwards (Poland and Finland) and to guarantee outlets to the Euro-Atlantic world-economy, namely though the Baltic Sea (St. Petersburg) and the Black Sea and the Mediterranean (Sebastopol and Odessa). As a result, the trade in traditional commodities was intensified, but some basic goods also began to be regularly exchanged. Russia exported corn from Ukraine through the Black Sea and forestry products from Livonia through the Baltic Sea, and imported technology, capital and cultural goods from the central economies of the Euro-Atlantic world-economy. As a result, thanks to its size and some industrial development, and being subject to strong protectionism and state initiative, Russia did not fall into a peripheral position in the world economy. However, institutional and social backwardness and a lack of human capital were serious impediments to the spread of modern economic growth. In spite of the demographic and cultural heterogeneity of its empire and the apparent impact of European culture, Russia nonetheless preserved its cultural – religious and linguistic – identity.

Other tributary world-economies – in the Islamic world, India and the Far East – were compelled to adapt their economic structures to the economic (trading) interests of Europe, due to the latter's military superiority. Contrary to the Russian case, most of the large empires in the 18th and 19th centuries endured severe internal political instability, which weakened their ability to withstand European pressures. Some could not avoid processes of political disintegration and secession within the empire, as was the case with the Mogul Empire in India (18th century) and the Ottoman Empire in the Mediterranean (19th century). Others could not avoid severe political turmoil, enduring revolutions and even regime crisis after the loss of prestige for emperors, since they could no longer resist foreign military powers. This was the case with China after the Opium War against Great Britain in the 1840s and with Japan, unable to resist the American fleet in 1854. Except for Japan, these empires were to temporarily lose their sovereignty, either totally or partially, becoming colonized peripheries of the world economy, exporting raw materials and foodstuffs and importing technology, manufactures, capital and human capital. However, although they failed to achieve immediate and sustained economic growth, they preserved their national identities and ended up regaining their sovereignty in keeping with the cultural and political geography that had existed before colonization. As for Japan, the loss of prestige and the collapse of the Tokugawa dynasty in 1867 united Japanese society under the rule of a new leadership, which succeeded in modernizing the Japanese economy, creating a sound basis for the development of a successful imperialist attitude which would last until the Second World War.

7.3.2.2. The integration of cultivation-based local economies: direct and indirect processes of enforced integration

Cultivation-based local economies were integrated into the Euro-Atlantic world-economy through two different processes: some were integrated as a result of the direct initiative of that economy, others were actually taken over by the tributary world-economies, which were being integrated through the processes mentioned above.

Sub-Saharan Africa and the Pacific Islands were directly integrated by European powers (and marginally by the USA in the case of the Pacific territories) as colonies, after the middle of the 19th century. The relatively late integration of these areas was the result of two factors. On the one hand, they were not particularly appealing as commercial partners. By then, the traffic in slaves, their main export commodity for centuries, was no longer accepted in Europe and America as a reasonable way of guaranteeing their labour forces. Per capita gross domestic product was too low to turn those economies into relevant markets for European commodities. On the other hand, the climate and the high population density called for specific medical products and arms, which were only available during the 19th century. When the division of those territories was agreed upon, colonial powers

were quite ignorant about their economic interest and each one was basically interested in preventing their rivals from taking over possible interesting areas.

Indirect processes of integration took place in Central Asia through the expansion of the Chinese and Russian empires into Tibet, Turkestan and Mongolia, where agrarian or pastoral local economies were to be found.

Cultivation-based local economies were integrated as peripheries; they lost their political sovereignty and most of their original culture. They would later regain their independence, but, usually, with a cultural and political geography that had been profoundly changed by colonization. It is sufficient to recall that the borders of most Sub-Saharan African states today, have little to do with the borders of the tribal states that existed before colonization and that most of their official languages are of European origin.

7.3.2.3. The integration of predatory local economies: destroying in order to integrate

Basically located in America and Australia, the predatory local economies were actually destroyed. Their low demographic density and their inability to resist allowed European immigrants to confine them to very restricted areas if they chose to retain their traditional way of life, or to force them to become integrated into the new societies of European origin which were occupying and exploring those rather empty spaces, namely for mining and agricultural purposes. The future position, in the context of the world economy, of the regions where those economies existed varied significantly. The ones located in the USA or in Australia now belong to central areas of the world; others, in South America, belong to rather peripheral areas of the world economy.

Table 7.3 summarizes the types of economic integration presented.

Table 7.3 – Types of integration processes of new areas into the world-economy

Type of integrated area	Integration impulse	Impact of integration	Cases	Political structure	Remarks
Predatory local economies	Coercive	Destruction (ecological shifts)	America Siberia Australia	Integration into different national states (centre, semi-periphery, periphery)	The frontier; the railway; the successive identification of the physical and economic space
Agricultural-pastoral local economies	Coercive (periphery)	Expansion as a peripheral area	Sub-Saharan Africa Central Asia	Colonial area, later independence	Development of an exporting plantation system
World - economies	Coercive (periphery)	Economic stagnation (periphery)	India, China, Turkish Empire	Formal or informal colonial area	Chartered companies and concessions; Financial and political dependence
		Attempting economic development (centre)	Japan	Independence	
	Voluntary (semi-periphery)	Attempting economic development (centre)	Russia	Independence	

7.4. Contemporary globalization

As we noted at the beginning of this section, the importance of the process involved in the formation of the contemporary world economy as the single global economy in the world somehow seems to have been relatively neglected by recent analyses focusing on the so-called 'globalization' process, which is actually a second globalization process.

It is not disputed that the last two and a half decades have been a period of important social and economic changes, and of profound structural adjustments. However, this period did not create a new economic age. The main characteristic trends of modern economic growth still remain as they were, no new types of economic spaces and no new economic systems have arisen.

The sustained and rapid rise in the average standard of living as a consequence of fast paces of innovation is apparent at a global level, despite a slower dynamism in recent decades.

The world economy is still the only global economy and the national economies are still relevant spaces in spite of the intensification of regional economic integration processes, the implementation of a global logic of productive systems and some limits on the use of traditional instruments of economic policy by national states.

Despite the importance of privatization processes in the neo-liberal context, the regulated market mixed economy system (in which the economic units of private enterprise have always tended to predominate) is highly predominant. Technological and organizational innovations have

helped to reduce the so-called imperfections of the market and indirectly allowed for a decrease in the level of direct state involvement in production and distribution in classical situations of state intervention (meaning a lower number of public goods and cases of a natural monopoly). However, other classical forms of state intervention have increased in importance, i.e. the management of collective resources.

The ongoing process of globalization seems to be a new phase in modern economic growth. Significant elements of a new technological revolution (related basically to information technology – optical fibres and miniaturization – and energy production), and organizational innovations (related to more flexible production systems and a greater use of external supplies) are leading to a rapid decrease in costs, particularly transaction and information costs. Institutional innovations have kept up with this process, mainly by producing the necessary framework both at the national and at the world level (deregulation of financial markets, deepening and widening of economic integration, reduction of protectionism), and are building a new international order.

As in other phases of the world economy, at a time when all these types of changes are still in a certain mismatch situation, this process has led to an increase in social and regional inequality, social unrest, an exacerbation of nationalist sentiments and a struggle for economic dominance.

Appendix – Statistical data about modern economic growth

Source: Maddison, Angus – The world economy: a millennial perspective – OECD, Paris, 2001

Units:
Part A – 10^9 USD 1990 prices
Part B – USD 1990 prices
Part C
Gross domestic product – 10^9 USD 1990 prices
Per capita gross domestic product – USD 1990 prices
? Unknown figure
• Included in other economy
* See notes page 108

Note – No data available for Andorra, Channel Islands, Faroe Islands, Gibraltar, Greenland, Isle of Man, Liechtenstein, Monaco and San Marino.

A – Gross domestic product

year	1820	1870	1913	1950	1973	1990	1998
World	694	1102	2705	5336	16059	27076	33726
USA	13	98	517	1456	3537	5803	7395
Japan	21	25	72	161	1243	2321	2582
China	229	190	241	240	740	2109	3873
Europe *	225	499	1260	2097	6198	8683	8754
Albania *	•	•	?	1	5	8	8
Austria *	?	26	67	25	85	130	153
Belgium *	•	14	32	47	119	171	198
Bulgaria *	•	•	7	12	46	50	38
Czech Republic *	•	•	•	43	102	133	89
Denmark	1	4	12	30	70	95	117
Finland	1	2	6	17	52	84	94
France	38	72	144	220	684	1026	1150
Germany *	26	71	237	214	815	1182	1460
German Democratic Republic *	•	•	•	51	130	82	•
Great Britain *	36	100	225	348	676	945	1108
Greece	2	3	9	14	68	101	118
Hungary *	•	•	•	23	58	67	66
Ireland *	•	•	•	10	21	41	67
Italy *	23	42	95	165	583	926	1023
Netherlands *	9	10	25	61	176	258	318
Norway	1	2	6	18	45	78	105
Poland	?	?	?	61	178	195	258
Portugal	3	4	7	18	63	107	129
Romania	?	?	?	19	72	80	65
Russia *	38	84	232	510	1513	1988	664
Spain	13	22	46	67	304	474	560
Sweden	3	7	17	47	110	151	165
Switzerland	2	6	16	43	117	147	152
Turkey *	?	?	?	38	144	305	423
Yugoslavia *	?	?	14	25	89	130	29

B – Per capita gross domestic product

year	1820	1870	1913	1950	1973	1990	1998
World	667	867	1510	2114	4104	5154	5709
USA	1257	2445	5301	9561	16689	23214	27331
Japan	669	737	1387	1926	11439	18789	20193
China	600	530	552	439	839	1858	3117
Europe *	1002	1521	2537	3663	8624	11012	10939
Albania *	•	•	?	1001	2252	2482	2401
Austria *	?	1351	2429	3706	11235	16881	18905
Belgium *	•	2697	4220	5462	12170	17194	19442
Bulgaria *	•	•	?	1651	5284	5552	4586
Czech Republic *	•	•	•	3501	7041	8512	8643
Denmark	1274	2003	3912	6946	13945	18463	22123
Finland	781	1140	2111	4253	11085	16868	18324
France	1230	1876	3485	5270	13123	18093	19558
Germany *	1058	1821	3648	4280	13147	18691	17799
German Democratic Republic *	•	•	•	2796	7695	5101	•
Great Britain *	1707	3191	4921	6907	12022	16411	18714
Greece	666	913	1592	1915	7655	9984	11268
Hungary *	•	•	•	2480	5596	6471	6474
Ireland *	•	•	•	3446	6867	11825	18183
Italy *	1117	1499	2564	3502	10643	16320	17759
Netherlands *	1523	2753	4049	5996	13082	17267	20224
Norway	1104	1432	2501	5463	11246	18470	23660
Poland	•	•	•	2447	5340	5115	6688
Portugal	963	997	1244	2069	7343	10852	12929
Romania	?	?	?	1182	3477	3525	2890
Russia *	689	943	1488	2834	6058	6871	4523
Spain	1063	1376	2255	2397	8739	12210	14227
Sweden	1198	1664	3096	6738	13493	17680	18685
Switzerland	1280	2202	4266	9064	18204	21616	21367
Turkey *	?	?	?	1818	3753	5441	6552
Yugoslavia *	?	?	?	1585	4350	5695	2729

C – Other European countries in 1998

country	GDP	per capita GDP
Armenia	13	3341
Azerbaijan	16	2135
Belarus	59	5743
Bosnia-Herzegovina	9	2851
Cyprus	9	11169
Croatia	28	5963
Estonia	15	10118
Iceland	6	20205
Georgia	15	2737
Latvia	15	6216
Lithuania	22	5918
Luxembourg	13	31058
Macedonia	6	2922
Malta	4	11642
Moldova	9	2497
Slovakia	42	7754
Slovenia	24	11980
Ukraine	127	2528

Notes:

Europe – Total of European countries, including Russia (and the Asian part of its territory) and Turkey (and the Asian part of its territory).

Albania – In 1820 and 1870, included in the Ottoman Empire (Turkey).

Germany – In 1820 and 1870, German Confederation (excluding Austria). In 1913 and 1998, Germany. In 1950, 1973 and 1990, Federal Republic of Germany.

German Democratic Republic – In 1820, 1870, 1913 and 1998, included in Germany.

Austria – In 1820, 1870 and 1913, Hapsburg Empire (including Austria, Czech Republic, Croatia, Hungary, Slovakia, Slovenia and several Italian, Polish and Romanian territories, according to the respective date).

Belgium – In 1820, included in the Kingdom of the Netherlands.

Bulgaria – In 1820 and 1870, included in the Ottoman Empire (Turkey).

Czech Republic – In 1820, 1870 and 1913, included in the Hapsburg Empire (Austria). In 1950, 1973 and 1990, Czechoslovakia, including the Czech Republic and Slovakia.

Great Britain – In 1820, 1870 and 1913, the United Kingdom of Great Britain and Ireland. In 1950, 1973, 1990 and 1998, the United Kingdom of Great Britain and Northern Ireland.

Hungary – In 1820, 1870 and 1913, included in the Hapsburg Empire (Austria).

Ireland – In 1820, 1870 and 1913, included in the United Kingdom of Great Britain and Ireland.

Italy – In 1820, Italian states of the Holy See, Lombardy, Lucca, Modena, Monaco, Parma, Piedmont-Sardinia, Tuscany, Venetia and the Two Sicilies.

Netherlands – In 1820, Kingdom of the Netherlands (including Belgium and Luxembourg).

Russia – In 1820, 1870 and 1913, Russian Empire, including Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. In 1950, 1973 and 1990, Union of Soviet Socialist Republics including Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

Turkey – In 1820 and 1870, Ottoman Empire, including Albania, Bulgaria and Macedonia.

Yugoslavia – In 1820 and 1870, Serbia. In 1913, Serbia, including Macedonia. In 1950, 1973 and 1990, Yugoslavia including Bosnia-Herzegovina, Croatia, Macedonia, Montenegro, Serbia and Slovenia. In 1998, Yugoslavia including Montenegro and Serbia.

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