

**AN ECONOMIC HISTORY OF MODERN EUROPE: SECTORAL  
DEVELOPMENTS, 1945-2000**

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# Agriculture in Europe, 1945-2000

## *Structural change*

In the aftermath of World War II, agriculture still employed a large share of the work force in most of Europe. Only in a few earlier developers, such as Great Britain, Belgium and to a lesser extent the Netherlands and Germany, was the share of labour employed in agriculture already relatively low. During the half century that followed agriculture lost its relevance. In 2000, only in the very periphery in the East did agriculture still maintained some importance, namely, in Albania, Bulgaria, Romania, Georgia, Ukraine and Turkey. The fall in the share of agricultural employment was in many places accompanied by the fall of the share of agriculture in total output. Yet these two trends were not closely correlated, as there were relevant differences in the performance of labour productivity across Europe. In Austria and Denmark, for example, the fall in the output share in the period from 1950-1975 was larger than the fall in the employment share, which meant the gap of agricultural labour productivity increased.

The sharp decline in the importance of European agricultural activity was a consequence of events within the agricultural sector, as well as changes in the industrial and service sectors. These changes were motivated by market forces, but they were also a consequence of economic policy options. Agriculture got special attention from governments, for several reasons, including atavism, to provide food security and to limit welfare losses in the rural areas. These governmental options were more relevant under democratic government, where officials had higher incentives to respond to pressure groups, but they were also felt in the many dictatorial countries that existed in Europe before 1990.

Table 1 depicts the changes in the share of agriculture in total employment and GDP. The countries in the table are set in four groups that closely follow a geographical pattern. The first group comprises the early developers in Northern Europe, where

agriculture had a smaller expression by 1950, particularly in terms of its share in total output. Naturally, there are important differences within this group. In fact, whereas the share of labour employed in agriculture in the UK, Belgium and the Netherlands was 10 percent or below, France and Norway had agricultural employment shares above the 20 percent threshold. The most important unifying factor in this group of countries is the fact that structural transformation was very rapid and that by 1975 in all of these countries the shares of labour and GDP had converged to ratios within a small range. Table 1 also reports the gap of labour productivity between agricultural and non-agricultural sectors and again there are many differences in this indicator. The Netherlands, the UK, and Belgium had relatively low productivity gap, in 1950, but in the Netherlands that gap increased considerably in the years to 1975. The labour productivity gap increased in most countries from 1975 to 2000 and that by this later year there was a convergence in the same gap. These trends are possibly connected to the implementation and development of income supporting policies in the agricultural sector.

[Table 1]

The transformation of the structures of the economies of the second group of countries in Table 1 was less rapid than that of the forerunners and continued in the period from 1975 to 2000. Yet in this latter year the share of agriculture in employment and output was similar to those of the first group of countries. The measure of productivity gap presented in the same table also reached similar levels by 2000. The third and fourth groups of countries in Table 1 represent two very different patterns of development. The first one includes countries that had very large agricultural populations by 1950 but which went through a period of strong structural transformation in both the 1950-1975 and 1975-2000 periods. The second is formed by the countries in Eastern and South-eastern Europe which lagged behind. It is however important to note the labour productivity gap was very high in both groups of countries.

The data on Table 1 shows that there is no significant correlation between the agricultural labour productivity gaps and the speed of structural transformations. In fact, the countries in the bottom end of the table have large labour productivity gaps and yet their structures did not change more rapidly. This implies that either the productivity gaps were not matched by equivalent gaps in relative agricultural wages or,

alternatively, labour did not move out of agriculture because of institutional factors, namely, sticky labour markets and government policies. This implies that the understanding of changes in European agriculture in the period from 1950 to 2000 needs to take into account the role of economic policies.

### ***Agricultural policy***

The shape of agriculture in Europe in 1950 was to a large extent affected by the protective policies of the interwar period, as well as by the effects of World War II. Moreover, because of the recent experiences of war, most European governments were concerned in securing self-sufficiency in terms of the supply of foodstuffs and raw materials. European agriculture had been protected in the past, but some trade and internationalization specialization was nevertheless allowed. This was not a problem of the agricultural sector, as industrial trade and international specialization also were affected by the two world wars. Yet governments in Europe, particularly in Western Europe, were much quicker in dismantling protection to the industrial sector, whereas liberalization of the agricultural sector took longer time to start and evolved at a much slower pace. As in many respects, there are large differences between speed of liberalization in the western democracies and the southern and central European dictatorships, but that political divide was not always important. In fact, Czechoslovakia had a rapid structural transformation in 1950-1975 and was then a dictatorship, whereas the process was much slower in democratic Ireland.

After the end of World War II several important instruments were developed to promote trade liberalization, including the Bretton Woods institutions, namely the International Bank for Reconstruction and Development (IBRD) and the International Monetary Fund (IMF), the Organization of European Economic Cooperation (OEEC), which channelled the Marshall aid, and the General Agreement on Trade and Tariffs (GATT). These institutions helped the recovery of international trade either by providing the funds to finance trade and multilateral balances, or by stimulating the reduction of trade barriers, but agricultural trade was largely unaffected by them<sup>1</sup>. Their reach was quite considerable. The OEEC included 16 countries across western and southern Europe. The countries that were occupied by the Soviet Union army did not

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<sup>1</sup> See Ingersent and Rayner (1999, pp. 121-126).

join the new international institutions and founded the Comecon which however had a less ambitious scope in terms of the promotion of international trade.

The liberalization of international trade in agriculture was only addressed directly within the limited group of six western industrialized countries that created the European Economic Community (EEC), in 1957, and of the Common Agricultural Policy (CAP) which started in the early 1960s. The CAP had three main objectives, namely, to stabilize agricultural markets, to assure the availability of food and agricultural raw materials supplies and to control prices (Ingersent and Rayner, 1999, p 151). These objectives were essentially in tune with national interest groups and governments. Yet the fact that the actions of the government of the Six were coordinated, meant that borders could be opened up to trade, as national agricultural sectors came under equivalent levels of external tariff or price protection or received similar amounts of subsidies (Milward, 1992). The process of liberalization within the EEC was however slow, and protection from trade outside the Six was not dismantled. The CAP was however prone to instability because of the impact of exchange rate fluctuations within the Six on domestic prices.

The subsidies to agriculture within the EEC may have facilitated capital deepening and improvements in the sector and thus the release of labour to the rest of the economy followed by large increases in both labour and land productivity. In any case, protection to agriculture did not impend structural change and between 1950 and 1975 the Six were those countries where the share of agriculture in total GDP declined more substantially, as happened in the other six wealthy western countries that belonged to EFTA, namely Austria, Denmark, Norway, Sweden, Switzerland and the United Kingdom<sup>2</sup>. In all of these countries agriculture's GDP share was below 7 percent. A similar fall occurred in Czechoslovakia and Spain, where agriculture's GDP share declined from 22 percent in 1950 to 8 or 9 percent in 1975. Protective policies of the agricultural sector were far from those that were imposed in the wealthier countries and thus the move towards non-agricultural sector was possibly facilitated. In any case, the most important driving force behind the demise of agriculture in the two countries was the fact that industrialization was very rapid in the period from 1950-1973.

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<sup>2</sup> Portugal was the seventh EFTA member. Because it joined as a developing economy, the country managed to secure some trade liberalization for transformed agricultural products, such as canned tomato and fish and corks.

The United Kingdom, which only joined the EEC only later on and was never a participant in the CAP, also inherited interventionists policies from the interwar and the war periods, but protection was abandoned at an earlier phase. The demise of protection was important for the growth of agricultural exports from neighbouring countries, particularly Denmark, Norway and Ireland. In 1959, the UK would lead the creation of European Free Trade Association (EFTA) which was however devoted only to liberalization of trade in manufacturing.

The weight of agriculture in GDP in 1950 was higher in the countries that are grouped as second comers in Table 1. Here agricultural policies were designed at the national level and without international coordination as these countries did not belong to any international organization that promoted the policy coordination. Yet that was not an obstacle to rapid changes in their economies, as the share of agriculture in total employment and output also declined rapidly. In fact, in Austria, Denmark, Finland, Spain, as well as in communist Czechoslovakia, the importance of the agricultural sector fell to about 15 percent of GDP in 1975 and, in 2000, the importance of agriculture had reached the low levels of the EEC countries.

In the countries grouped as the first periphery, the demise of agriculture was slower and that was both the outcome of the fact that liberalization came much later, but also that agriculture was heavily protected. The accession to the European Communities of the three southern European countries was followed by a more rapid transformation of the structure of their economies. The countries in the second periphery still have to endure that process and their agricultural sectors are still heavily protected.

### ***The costs of protection***

One major feature of European agriculture is that it was a heavily protected sector in the decades from 1950 to 2000. Despite protection, the share of agriculture in total employment and output fell sharply all over Europe and only in the poorest parts of south-eastern Europe did agriculture still account for a considerable share of economic activity at the end of our period. Agricultural policies switched from protecting domestic producers from imports towards the protection of farmers incomes, which was presumably less harmful for growth. But even under this more benign form of protection, it still had large costs in terms of government budgets and, more importantly, in terms of European trade specialization in the wider World. It is hard to assess with precision whether agricultural policies in Europe impacted negatively on the

pace of economic growth of the European nations and on the speed of economic convergence within the continent. By looking how European agriculture was transformed in the half century here analysed, we may posit that the impact was probably not too large. But if that was the case, that was certainly not the merit of the design of agricultural policies, but because the market forces that led to the growth of the manufacturing and service sectors were sufficiently strong to offset any wrongdoing by governments regarding European agriculture. What happened outside agriculture was many times more important for overall macroeconomic performance.

## **Industry**

### The Golden Age (1950s and 1960s)

The golden age of European economic growth can perhaps most aptly be described as a virtuous cycle of growth. Demand and supply expanded hand in hand attaining very high and sustained rates of change. Initially they expanded in a process of rapid reconstruction and recovery to the pre-war levels of income and production. But further on the sustained high levels of growth were obtained through a fortunate combination of enhancing phenomena and lack of disequilibria. Among the growth enhancing factors population growth provided expanding markets and labour force. Possible disequilibria in labour markets were avoided by in- or out-migration, female labour force allocation and mechanisation. Capital requirements and balance of payments tensions were overcome by export-led growth which rapidly re-established exchange convertibility and permitted capital movements. Once expansion was in process the profitability of investments drew capital into Europe at a low cost. In parallel, Keynesian policies stimulated demand and smoothed economic cycles.

The high growth rates of labour productivity during this period can be traced back to both to the movements in employment between sectors but also the relative growth of output with respect to the growth of sectorial employment. Both of these sources will tend to be less appreciable over time. First because the shift of low productivity labour force from agriculture to high productivity industry has nearly been exhausted—the shift from industry to services has no similar productivity differential—and second because intra-sector improvements are limited by the scope of productivity gains in services which is becoming the most important sector in terms of value added produced and employment.

But during the golden age of European economic growth new practices aimed at increasing efficiency, such as mass production, consumption and distribution technologies, provided important productivity and utility gains. At the same time these new modes of production and consumption combined well with trade liberalisation and intra-European product market integration because they allowed for specialization and scales. New product lines, especially household appliances and motor vehicles but also processed food and new leisure products, drove and responded to important changes in household decisions: more and more women were to join the labour force, the

accumulation of human capital received a higher priority in the family household functions, appliances substituted for household labour, articles and services related to personal attire and appearance, leisure articles and activities and health increased in household budgets and provided new markets mainly to the industrial and services sector.

Overall, improvements in production tended to save all factors: labour, capital and materials thus leading to a general fall in costs within industry and so a fall in the relative price of its products. This had a cumulative impact on costs and productivity in the industries using industrial intermediate goods. New and cheaper goods led to increases in demand. Thereby output and employment expanded leading to economies of scale and further reductions in costs and prices.

Intra-European trade mainly among nations with similar levels income per capita and economic development drove overall trade to grow faster than output especially in manufactures. Large-scale industrial expansion evolved in a context of expanding home and foreign markets, elastic factor supply, new technology with a high potential for increasing productivity and embracing economic policy. Furthermore large productivity gains were attainable in technological innovation via scale and flow economies in science-based industries by increasing R&D, education and fixed capital investment.<sup>3</sup>

Three of the four regions examined in this chapter followed this pattern; west and central Europe pushed into the age of mass consumption and developed welfare states. Northern and southern regions experiencing even higher rates of change which allowed for catching up in terms of productivity, income and sector composition.

Although Eastern Europe showed similar high growth and transformation, its political and institutional regime marked important differences. As satellite countries to the USSR the political regimes maintained command economies with highly centralized planning and enforcement. A high priority was given to industrialization especially to the heavy sectors as providers of durable investment goods for production. Resources and effort were channelled into iron and steel, chemicals, metals, electric power and machinery. All countries experienced important shifts from agriculture to industry both in output and employment. The potential for increasing output by shifting labour from low productivity agriculture to industry was highest in the more backward countries. Bulgaria, Czechoslovakia, Hungary, Romania and Yugoslavia strongly reduced their

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<sup>3</sup> Chandler (1977) and Freeman (1997)

shares of agricultural labour force by increasing their industrial labour force share. Nonetheless income levels remained low in comparison to the rest of Europe. Consumer products showed moderate growth which combined with a limited choice in the range of products. Low paid workers benefited from low prices for essential products, cheap housing, public health and education but skilled labour lost relative purchasing power and suffered strong economic disincentives

Population and labour force expanded at a higher rate than the rest of Europe, but even so forced investment drove fixed capital per person employed to increase in all sectors. Extensive growth and lack of market dynamics to allocate and use resources efficiently led to lower capital, labour and total productivity, resource underutilisation and waste, slack labour discipline, misallocation of investment and adverse incentives for technological change. From the 1960s creeping economic reform introduced some degree of decentralisation in decision making, market mechanisms for allocating resources and private enterprise activity.

[Table 2]

[Table 3]

### Slowdown (1970s and 1980s)

Stagflation and severe recession followed the economic boom of 1972-3. What was initially perceived as a trough in the cyclical movement of post-war European economy languished on into an absolute decline in economic activity, two-digit unemployment and inflation rates. Instability, Keynesian policy paradigm coming to an end, energy price hikes deepened the fall and dispersion of growth performance (calculate standard deviation). Some scholars have interpreted these decades as a readjustment from previous abnormal growth rates back to the sustainable growth path.

Much has been written on the favourable circumstances of previous decades and how changing adverse circumstances have contributed to this economic slowdown. We have mentioned the virtues of adaptive labour supply, scale technologies, efficient resource allocation, among others in the previous section. A dimension which was to worsen the strains and imbalances of the early seventies were energy costs. Terms of trade in general had been highly beneficial for Europe over the previous period. Commodity prices rose steadily, but food, energy and raw materials prices had lagged

behind. Cheap energy had allowed for the development of energy intensive sectors. When the OPEC price hike hit the production and consumption patterns it required time and restructuring to adapt to the new relative price parameters.

Scope for further gains from the catching-up process and allocating resources efficiently was limited by 1970s. In industry big was no longer beautiful, the “visible hand” as Chandler had termed the progressive replacement of market allocation mechanisms into large firm management suffered a serious setback. Out-sourcing, Just-In-Time or contracting services previously done by company departments reduced the size and activity of firms. It helped make them more flexible and adaptive to rapid changes in a climate of instability. But at the same time it shifted more and more resources out of industry and into services.

If we look back in European economic history for empirical regularities in economic development which might constitute what has been referred to as patterns of development, we can find two such patterns related to the allocation of labour: an initial phase, during which labour moved out of agriculture into industry, and second phase with growth of the services at the expense of both industry and agriculture. We find that the 1970s were a period during which most European countries suffered a decline in the share of labour force engaged in industry. Looking at the different areas of Europe we find the higher the initial share of industry were, the deeper their fall. Deindustrialization was most pronounced in those countries whose proportion of labour force in industry was already at or above 40 percent in 1960.<sup>4</sup> The share of labour in central European industry dropped from over 45 % in the seventies to below 35% at the end of the eighties. Less dramatic drops can be observed for northern and southern Europe with falls from 35 % to around 30 % and 32 % to 28 percent respectively.

#### Recovery and sluggish growth (1990s to present)

The 1990's introduced important changes in European economies. The creation of European economic and monetary union provided fiscal and monetary discipline by limiting debt, deficit and interest rate variation. Inflation was brought back under control and gradually increasing economic stability helped business, employment and consumption to recover. But also fixed exchange rate were to reduce risk and facilitate

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<sup>4</sup> Feinstein (1999), pp 37-8.

the efficient allocation of capital. Growing EU membership over the last phase of post-war economic has spread this stability and increased scales further. On one hand the centrifugal forces which are concentrating high-tech industry in Europe's transport centre in a clear example of Marshall externalities —driven by skilled labour pools, the ease of technology spill-overs and most appropriate infrastructures. On the other hand the centripetal forces are moving specialized activities and low skill activities into the outer circles.

China's spectacular industrial growth performance —the awakening of the sleeping dragon— is moving assembly industries and labour intensive activity in general to East Asia. Europe is de-industrializing at a steady pace. The exception is Northern Europe which is re-industrializing in terms of output. In this adverse economic context the high growth of productivity in Northern European industry compared to overall productivity growth has implied a lower share of labour inputs absorbed by that sector relative to its share in total output. The relatively good productivity performance also led to a relatively lower increase in prices with a corresponding reduction in its share in output valued at current prices.

The revolution in information technology and communications (ITC) shows signs of constituting a 'productivity paradox' similar to the replacement of steam power by electricity at the beginning of the century. Paper and digital formats continue to coexist and although ITC is providing higher speed, diversity and reduced storage space, the high pace of innovation —Schumpeterian destructive creation— may be contributing to "see the computer age everywhere except in productivity statistics".<sup>5</sup>

In many other sectors ITC has only modest scope for application of new equipment or procedures and if they do emerge they tend to increase demand rather than productivity.<sup>6</sup> Although ITC has an enormous potential to standardize and automatize services, productivity growth in services is highly constrained as consumers are purchasing that service because they are looking for personalized labour intensive attention. Ageing European population, higher incomes and the increasing preference for diversity and quality of leisure activities and products are reinforcing the demand for personalized services and goods.

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<sup>5</sup> Solow (1987).

<sup>6</sup> Feinstein (1999).

## Services in Europe 1945-2000

For the last 50 years, services have been a most dynamic part of the European economy, increasing its share both of output and of employment. In the Golden Ages of growth, up to the mid-1970s, services were to a large extent complementary to the expansive manufacturing sectors. In the last decades of the 20th century, however, the service sector became one of the primary forces behind European growth.

### The Golden Age (the 1950s and 1960s)

Comprehensive data for the service sector is still very scarce for the first post-war decades. It is clear, though, that in this period of strong growth in the material production sectors of manufacturing industry and construction and with rapid urbanisation in large parts of Europe, the service sector was to a large extent complementary to this development.

The modernisation of Europe, from different regional levels, provided new demands on the supply of human capital. Thus, one primary task of the service sector was to mobilize human resources. Education expanded explosively in the 1950s and the 1960s due both to the high rates of population increase in the 1940s and 1950s and to the rise in the level of schooling. Europe entered the era of mass education. Furthermore, the health care sector grew substantially in these decades as well, both with the modernisation of hospitals and medical treatments and with the extension of the supply of health care as part of post-war political programmes.

During the 1960s and 1970s another labour mobilizing service gained in importance – the provision of public child care to release female labour from unpaid domestic work within the households. This link between the release of female labour and the growth of the public sector was particularly emphasised in countries with comprehensive social programmes for labour force mobilisation and – progressively more outspoken – programmes for gender equalisation. Thus, the link is clear in the northern European countries developing the Scandinavian model of public services as it appears from the Swedish historical national accounts in graph xx.

Education, health care and child care were to a large extent supplied by the public sector, by states or by local communities, and all over Europe employment in the

public sector increased. This trend was further intensified by social democratic or Keynesian inspired policies that gave a prominent role to the public sector in providing services to stabilize the society in the process of rapid modernisation and of re-integration into the world economy. Apart from more ambitious programmes of income transfers, there was a greater emphasis put on social planning that made the output of administrative services grow.

Consequently, the employment share of services grew particularly in northern Europe, i.e. in Scandinavia. Over the 1960s the service share grew by ten percentage points and by 1970 roughly half of the labour force was employed in services and close to one third in the public sector. During the 1960s Scandinavia superseded Central Europe in service shares of employment but both regions had high shares. Southern and Eastern Europe was on a distinctly lower level with service shares increasing from a quarter to a third, marking the much more agricultural character of these regions.

Beside public sector provision of services (or mainly public provision in the field of human capital mobilisation), trade was another main area of employment. In this branch employment stagnated, however, and decreased in relative importance within the service sector. The 1960s was a period of rather intensive rationalisation in retailing, particularly in northern and central Europe. With the massive modernisation of society, the diffusion of automobiles and nation-wide electrification, large scale retailing was introduced on a wider scale in Europe. Also employment in transport and communication diminished relatively as an indication of technological change as well as of the diffusion of private automobiles.

The financial sector was on a comparatively low level quantitatively, indicating the rather limited role financial intermediation had to play in the Keynesian era with nationally regulated markets. It was however relatively more important, in terms of employment, in central Europe and particularly in the UK.

#### The service sector in the post-industrial society from the 1970s

From the mid-1970s Europe entered into a new era of accelerated growth of the service sector, particularly in terms of employment, at the expense of both the agricultural and the manufacturing sectors. There were certainly several factors behind this growth of the service sector. Firstly, there was technological change. The advent of the microchip in the 1970s sparked of a new direction in the IT-revolution with the massive diffusion

of computer processing power, flexible communication and low cost information transfer. The intensity of information and knowledge rose steeply in most activities, creating scope and need for more and new services. Secondly, the prolonged income increases of the post-war period shifted demand in direction of services such as personal care and domestic aid, tourism, media and cultural experiences, financial intermediation. Thirdly, intensified global market integration and the diffusion of industrialisation shifted European advantages in direction of services – both internally by sustaining real income growth and externally by increased demand for financial services or other business services.

Technological change and global market integration also changed the structure of services. The public sector growth ended in the 1980s and was even thwarted into some regression in the 1990s. The reason was mainly twofold. For one thing, there was a widespread political reaction towards increasing level of taxation leading to new political concepts of deregulations and privatisation from the 1970s and the 1980s – in Eastern Europe this reaction to public sector redistribution took of course a very particular form in the 1980s and 1990s. For another thing, technological change created distinctly new possibilities of information flows and organisation, reducing transactions costs as well as reducing asymmetries of information. The pendulum shifted from public to private sector. It also shifted from national regulation to international integration. The financial sector was a forerunner, breaking down Keynesian-inspired regulations during the 1970s and 1980s. The media sector followed suit and in the 1990s Internet revolutionised most sectors of information and transactions.

In Europe the new service sector presented particularly acute problems. On one hand, the bulk of growth forces shifted to this area, taking both demand side and supply side factors into account. On the other hand, these were areas that to a large extent were difficult to integrate in Europe. Many services demanded cultural specific competencies that reduced the mobility of labour (or increased the demand for a common language). The obstacles of integrating the European market were even more severe taking national regulations into account. Some of the most expansive and most knowledge intensive sectors - such as the health care sector and the education sector – were deeply integrated into the public sector and had different national regulations. The Bologna process is however one step in the direction of integrating the higher education.

Administrative integration and integration of social insurance systems in particular, is perhaps the key to a more effective labour market and service sector in Europe.

The service sector growth comes to a clear expression in employment shares all over Europe. In Northern and Central Europe, the service sector increased its share of employment from roughly half to close to three quarters from 1970 to the turn of the millennium 2000. In Southern and Eastern Europe the increase was from one third to half of the total employment. Thus, by 2000 the Southern and Eastern periphery had reached the service shares of Northern and Central Europe of 1970, although with proportionately larger agricultural sectors and smaller manufacturing sectors.

The relative productivity of the service sector – in relation to the GDP productivity level – has decreased considerably over the period. In part this is due to a slower productivity growth in services than in manufacturing and agriculture. It is also due to the fact that the agricultural sector, which has constantly been on a lower productivity level, was rapidly shrinking reducing the relative productivity advantage of services in a GDP perspective. In Central and Northern Europe this development was very similar, both in level and direction, although the decrease was more pronounced in Northern Europe – where the female participation rate in the service sector has been the highest. From productivity levels distinctly above the average, the service sector fell below by the year 2000. In Southern Europe the relative level of service sector productivity was considerably higher than in Central and Northern Europe which mainly reflects the large agricultural sector, debasing general productivity levels. It may also reflect differences in price structures and gender composition between regions. That may be the case in Eastern Europe as well with comparatively low relative service sector productivity despite a large agricultural sector. This may also be due to the composition of the services provided – with a comparatively low share of highly productive financial services or other business services and a larger share of (female) care.

[Table 4]

The employment of the different sub-sectors of services has mainly followed trends from the 1960s – with the public sector as the exception. Thus, the area of trade (including not only wholesale and retail trade but also tourism activities such as hotel

and restaurants) has followed an overall mild relative regression. While modernisation of trade has intensified, tourism activities have expanded. Employment in transport and communication gives witness of the impact from technological change. Despite the increase in transport and communication flows, employment has decreased. The financial sector and related business services and R&D, i.e. the most highly valued group of services with the most competence intensive processes, is the only category that increases its share of services. The employment share has doubled and the rate of increase rises over the decades.

[Table 5]

From 1979 the Groningen 60 sector database gives a more detailed account of the service sector in terms of production, employment and labour productivity per hour, mainly from the EU countries. The overall impression from the OECD data is corroborated. Employment in transport and communication has decreased while productivity has increased much stronger than in any other service sector. Employment has been most expansive in business-related services, to a certain extent signifying outsourcing of services earlier provided indoors within manufacturing companies but also signifying an increasing demand for more specialised competence in relation to new products and production processes. Also real estate services have been quite expansive in terms of employment, while employment in financial services more strictly defined has grown only slowly, despite considerable expansion of the financial markets. This is due primarily to the fact that the banking sector was the first service sector – beside communication itself – to apply modern IT technology, rationalising heavily in front-office positions.

It is furthermore noticeable that private household services have been very expansive in terms of employment, although productivity performance has been poor. This service is not only on the lowest level of productivity but productivity is also on a downward slope. Admittedly, productivity in this and other service areas is hard to measure and reflect mainly supply and demand conditions of relevant labour.

Labour productivity levels at three bench marks are given in fig xx. Labour productivity of real estate is not included – it is blown up vastly by the capital stock in the sector in which value added is mostly made up of interest rate charges. Evidently, labour productivity is the highest in the financial sector, engaging not only high

competence but also much capital per labourer. The same is true of the transport and communication sector that have improved its position much and surpassed R&D, business activities and public sector – expressed in 1995 price levels. Trade, tourism and in particular private household work linger in the low productivity realms. The decreasing value per hour in the latter case may also be the result of labour market deregulations, opening up new low wage areas in the EU over the last decades.

[Table 6]

**Table 1 – Shares of agriculture in employment and GDP and labour productivity gaps, 1950-2000 (%)**

	1950			1975			2000		
	Emp	GDP	Prod Gap	Emp	GDP	Prod Gap	Emp	GDP	Prod Gap
<b>Forerunners</b>									
Belgium	9	8	88,9	4	3,3	82,5	1,8	1,4	77,8
France	23	13	56,5	10	5,9	59,0		2,8	
Germany	14	10	71,4	7	3	42,9	2,7	1,3	48,1
Luxembourg					2,6		1,5	0,7	46,7
Netherlands	10	13	130,0	6	4,6	76,7	3,1	2,6	83,9
Norway	22	13	59,1	9	4,8	53,3	4,1	2,2	53,7
Sweden	16	13	81,3	6	5,5	91,7	2,4	1,9	79,2
Switzerland	15			8			4,7	1,7	36,2
United Kingdom	5	5	100,0	3	2,8	93,3	1,5	1,0	66,7
<b>Second comers</b>									
Austria	23	17	73,9	13	6,6	50,8	5,8	2,1	36,2
Denmark	18	21	116,7	10	5,3	53,0	3,3	2,6	78,8
Czechoslovakia (1)		<b>22</b>		14	<b>8</b>	57,1	5,1	3,9	76,5
<i>Slovak Republic</i>							6,7	4,0	59,7
Finland	35	26	74,3	15	9,8	65,3	6,0	3,8	63,3
Italy	33	22	66,7	17	7,5	44,1	5,3	2,8	52,8
Spain	42	22	52,4	22	9,7	44,1	6,6	4,4	66,7
<b>1st Periphery</b>									
Cyprus					15,7		5,3		
Greece	57	31	54,4	35	14,5	41,4	17,4	7,3	42,0
Hungary	<b>53</b>	26	49,1	<b>25</b>	15	60,0	6,5	5,4	83,1
Ireland	37	30	81,1	22	17	77,3	7,8	3,4	43,6
Poland	<b>57</b>	<b>35</b>	61,4	<b>30</b>	<b>16</b>	53,3	18,8	5,0	26,6
Portugal	44	31	70,5	34	26,5	77,9	12,6	3,8	30,2
<b>2nd Periphery</b>									
Albania							71,8	29,1	40,5
Bulgaria	<b>64</b>	30	46,9	<b>24</b>			26,2	14,2	54,2
Romania	<b>70</b>	31	44,3				42,8	12,5	29,2
Turkey	76			58	35,8	61,7	36,0	15,4	42,8
<b>USSR (2)</b>		<b>22</b>			<b>17</b>		14,5	6,4	44,1
<i>Estonia</i>							7,2	4,9	68,1
<i>Latvia</i>							14,5	4,6	31,7
<i>Lithuania</i>							18,7	7,8	41,7
<i>Georgia</i>							52,1	21,9	42,0
<i>Ukraine</i>							20,5	17,1	83,4
<b>Yugoslavia (3)</b>		<b>28</b>			<b>13</b>			19,4	
<i>Croatia</i>							14,5	9,1	62,8
<i>Slovenia</i>							9,5	3,2	33,7

Sources: World Bank Indicators Online & Mitchell 2003, pp 929-34 & <http://ddp-ext.worldbank.org/ext/DDPQQ/showReport.do?method=showReport>  
 Bold: 1950-54, 1955-59, 1960-64, 1965-69, 1970-74, 1975-79  
 (1) Czech republic from 1990; (2) Russian Federation from 1990; (3) Serbia in 2000

Table 2

**Sectorial shares of Value Added at constant prices and labour force  
(in percentages)**

	1950	1960	1970	1980	1990
<b>Central Europe (constant prices)</b>	6,6%	5,2%	3,9%	3,3%	3,4%
Agriculture	34,0%	38,9%	41,8%	38,7%	34,7%
Industry and Construction	59,4%	55,9%	54,3%	58,0%	61,9%
Services					
<b>Central Europe (employment)</b>	17,2%	12,4%	7,8%	5,2%	3,7%
Agriculture	41,1%	43,6%	43,6%	38,2%	32,2%
Industry and Construction	41,7%	44,0%	48,6%	56,6%	64,2%
Services					
<b>Northern Europe (constant prices)</b>	9,3%	7,2%	4,8%	4,1%	4,3%
Agriculture	29,5%	30,3%	34,5%	31,5%	30,8%
Industry and Construction	61,2%	62,5%	60,7%	64,4%	64,9%
Services					
<b>Northern Europe (employment)</b>	24,5%	16,8%	9,4%	6,3%	4,3%
Agriculture	35,6%	37,7%	37,0%	30,7%	28,1%
Industry and Construction	40,0%	45,5%	53,7%	63,0%	67,5%
Services					
<b>Southern Europe (constant prices)</b>	11,4%	8,8%	6,9%	5,3%	4,3%
Agriculture	25,6%	32,8%	35,7%	35,8%	34,7%
Industry and Construction	62,9%	58,4%	57,4%	59,0%	61,0%
Services					
<b>Southern Europe (employment)</b>	45,8%	35,2%	22,5%	14,9%	10,1%
Agriculture	24,9%	30,8%	36,2%	36,0%	30,5%
Industry and Construction	29,3%	34,0%	41,3%	49,1%	59,4%
Services					

Source: Van Ark (1996), appendices.

Note: Central Europe: France, Germany, Netherlands and United Kingdom. Northern Europe: Denmark and Sweden. Southern Europe: Italy and Spain.

**Division of Europe in geographical areas for table 3:**

- a) Northern Europe: Denmark, Finland, Norway and Sweden.
- b) Central Europe: Austria, Belgium, France, Germany, Ireland, Liechtenstein, Luxembourg, Netherlands, Switzerland, United Kingdom
- c) Eastern Europe: Balkans [Bosnia-Herzegovina, Croatia, Moldavia, Montenegro, Serbia, Slovenia], former Czechoslovakia [Czech Republic, Slovakia], Bulgaria, Hungary, Poland, Romania, former USSR [Estonia, Latvia, Lithuania]
- d) Southern Europe: Andorra, Cyprus, Italy, Greece, Malta, Monaco, Portugal, Spain

Table 3.

**Sectorial shares of Value Added at constant and current prices, and labour force (in percentages)**

	1950	1960	1970	1980	1990	2000
<b>Central Europe (constant prices)</b>						
Agriculture			3,0%	2,7%	2,5%	2,2%
Industry and Construction			39,7%	36,1%	33,2%	29,9%
Services			57,8%	61,5%	64,3%	67,9%
<b>Central Europe (current prices)</b>						
Agriculture			4,8%	3,2%	2,5%	1,7%
Industry and Construction			34,2%	31,2%	27,0%	22,0%
Services			60,9%	65,6%	70,4%	76,2%
<b>Central Europe (employment)</b>						
Agriculture		12,8%	8,4%	5,4%	5,0%	4,6%
Industry and Construction		44,8%	44,6%	38,7%	34,2%	24,5%
Services		42,4%	46,9%	55,8%	60,8%	70,9%
<b>Northern Europe (constant prices)</b>						
Agriculture			5,4%	4,5%	4,1%	3,5%
Industry and Construction			33,0%	31,3%	30,7%	33,5%
Services			62,1%	64,2%	65,2%	64,5%
<b>Northern Europe (current prices)</b>						
Agriculture			7,0%	5,5%	4,1%	2,4%
Industry and Construction			27,1%	27,0%	24,3%	27,1%
Services			65,9%	67,5%	71,6%	70,5%
<b>Northern Europe (employment)</b>						
Agriculture		25,6%	13,0%	8,4%	5,5%	3,1%
Industry and Construction		35,1%	37,4%	32,4%	28,5%	24,5%
Services		39,3%	49,7%	59,2%	65,9%	72,4%
<b>Southern Europe (constant prices)</b>						
Agriculture			6,5%	5,3%	4,6%	4,8%
Industry and Construction			33,4%	33,7%	31,8%	30,1%
Services			60,6%	61,5%	63,6%	65,3%
<b>Southern Europe (current prices)</b>						
Agriculture			17,8%	13,1%	9,2%	7,5%
Industry and Construction			25,7%	25,8%	24,8%	22,1%
Services			56,5%	61,2%	66,0%	70,5%
<b>Southern Europe (employment)</b>						
Agriculture		46,8%	35,0%	29,8%	22,7%	20,1%
Industry and Construction		26,3%	32,3%	31,5%	28,9%	28,8%
Services		26,9%	32,7%	38,8%	48,3%	51,1%
<b>Eastern Europe (constant prices)</b>						
Agriculture	28,1%	19,0%	12,3%	10,5%	13,3%	9,1%
Industry and Construction	31,0%	46,7%	48,8%	50,7%	42,4%	45,3%
Services	40,9%	34,3%	38,9%	38,7%	44,3%	45,6%
<b>Eastern Europe (current prices)</b>						
Agriculture			14,7%	12,8%	14,4%	8,9%
Industry and Construction			41,2%	41,4%	36,3%	25,6%
Services			44,1%	45,7%	46,4%	62,8%
<b>Eastern Europe (employment)</b>						
Agriculture	50,2%	38,0%		12,5%	12,3%	18,5%
Industry and Construction	23,0%	35,5%		48,4%	45,5%	32,0%
Services	18,2%	26,6%		39,1%	42,2%	49,5%

Constant VA: UN Data GDP/breakdown at constant 1990 prices in US Dollars

Current VA: UN Data GDP/breakdown at current national currency. National shares weighted by population

Estimates calculated from data Aldcroft (2002), table 6.2 and weighted with population data Maddison (2003).

Table 4. Relative service productivity levels 1970-2000 (share GDP / employment share).

	1970	1980	1990	2000
Central Europe	1.23	1.10	1.06	0.96
Northern Europe	1.24	1.08	0.99	0.88
Southern Europe	1.84	1.58	1.32	1.28
Eastern Europe	-	0.99	1.05	0.92

Source: Appendix, table 3 sectorial shares

Table 5. Employment shares in different service sectors 1960-2000 in Europe. Percentage.

	1960	1970	1980	1990	2000
Trade and hotel	34.5	31.5	31.9	31.5	31.1
Transport and communication	15.9	13.6	11.8	10.4	9.9
Financial services, real estate, R&D	8.1	9.1	10.7	13.1	16.8
Public administration, community social work	41.5	45.8	45.6	45.0	42.2
Total	100	100	100	100	100

Source: OECD database

Table 6. Service sector in EU15 1979-2003.

	Employment	Production	Productivity
Trade and hotel	0,67	2.11	1,44
Transport and communication	-0,11	3.56	3,67
Financial	0,79	2.48	1,69
Real estate	2,62	2.68	0,06
R&D	1,27	2.43	1,16
Other business activities	4,06	4.33	0,27
Public administration, health, education	1,17	1.82	0,65
Private households	3,37	2.49	-0,88
Total services (excl real estate)	1.26	3.10	1,84

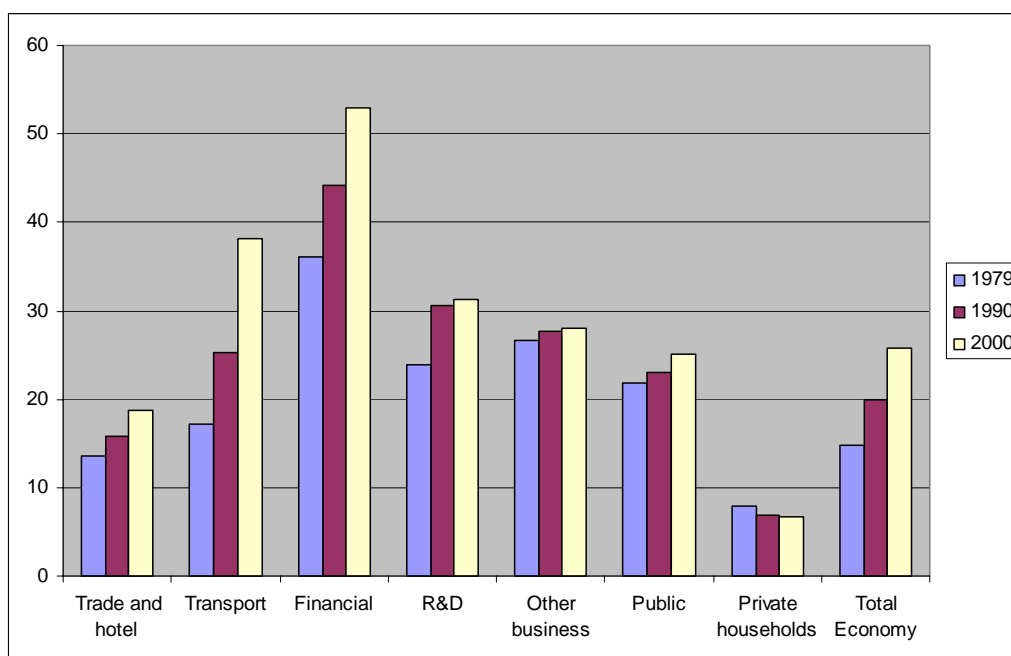
Source: Groningen Growth and Development Centre database; [www.ggdc.net](http://www.ggdc.net)

Table 6. Annual growth rates of the service sector in European regions 1970-2000. Constant prices.

	Services 1970-2000	GDP 1970-2000
Central Europe	3.1	2.5
Northern Europe	2.6	2.5
Southern Europe	3.0	2.8
Eastern Europe	3.5	3.0
All Europe	3.0	

Source: OECD database

Fig 1. Value added per hour in service sectors 1979, 1990 and 2000. Euros.



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