

shore oil deposits have been exploited in the 1980s and early 1990s.

Epirus

Southwest of Macedonia and bounded on the north by Albania, Epirus also is the Greek portion of a larger territory, which extends into southern Albania. An extremist irredentist movement has sought recovery of "Northern Epirus" from Albanian control (see *The Balkans*, ch. 4). Epirus is bounded on the south by the Gulf of Amvrakikos, site of the Battle of Actium where Octavian defeated Mark Antony to determine control of the Roman Empire (see *Greece in the Roman Empire*, ch. 1). Dominated by the main Pindus Range, which runs north and south and reaches an altitude of 1,800 meters, Epirus has been isolated from the rest of Greece by the lack of natural passageways running east and west. Because there are no major river valleys or basins between its steep, constricted ridges, Epirus is also a poor agricultural region, suitable mainly as pasture. Some grains are grown in the northern plains. The central mass of the Pindus Range forms the border between Epirus and Thessaly, the region to the east. The main river of Epirus is the Arakthos, which flows southward out of the mountains and into the Gulf of Amvrakikos.

Through most of its history, Epirus either consisted of isolated villages (during the era of city-states elsewhere), or it was occupied by the Romans or the Turks. Periods of federation and self-governance occurred immediately after the death of Alexander the Great and in the thirteenth century. The populace of Epirus played an important role in the Greek War of Independence (1821–32). The northern part of present-day Greek Epirus was ceded to Greece by the Ottoman Empire in 1881; southern Epirus became part of the kingdom of Greece in 1913. The main city, Ioannina, is a regional agricultural and commercial center.

Thessaly

Thessaly (Thessalia) occupies the east side of the Pindus watershed, extending south of Macedonia to the Aegean Sea. The northern tier of Thessaly is defined by a generally southwest-northeast spur of the Pindus Range that includes Mt. Olympus, close to the Macedonian border. Within that broken spur of mountains are several basins and river valleys. The easternmost extremity of the spur extends southeastward from Mt.

Olympus along the Aegean coast, terminating in the Magnisia Peninsula. The peninsula envelops the Gulf of Pagasai (also called the Gulf of Volos), which forms an inlet of the Aegean Sea. According to legend, Jason and the Argonauts launched their search for the Golden Fleece from that peninsula. Thessaly's major river, the Pinios, flows eastward from the central Pindus Range just south of the spur, emptying into the Gulf of Thermaikos.

The Pinios River flows through the northern edge of the most important topographical feature in Thessaly, the central plains. The Pinios has several tributaries that originate in a delta configuration that encompasses the entire plain to the south of the main river. The alluvial soils of the Pinios Basin and its tributaries make Thessaly a vital agricultural area, particularly for the production of grain, cattle, and sheep. Modernization of agricultural practices in the mid-twentieth century has controlled the chronic flooding that had restricted agricultural expansion and diversification in the low-lying plains. Thessaly is the leading cattle-raising area of Greece, and Vlach shepherds (of Romanian origin) shift large flocks of sheep and goats seasonally between higher and lower elevations.

The population center of Thessaly is the Greater Volos metropolis, a shipping center combining the cities of Volos and New Ionia with six smaller towns at the northern end of the Gulf of Pagasai. The nearly landlocked gulf provides a natural harbor at Volos for shipping the agricultural products from the plains just to the west and chromium from the mountains of Thessaly. The Northern Sporades (Vorioi Sporades) archipelago, administered by Thessaly's Magnisia Province, forms a series of islands, three of which are inhabited, extending eastward into the Aegean Sea from the Magnisia Peninsula.

Thessaly never had an independent existence. It was fragmented and isolated from the main political developments of the classical period to the south; then it was occupied by the Macedonians and Romans, who were followed by a variety of tribes and peoples until the Ottoman Turks took control in 1393. The Ottoman Empire ceded most of Thessaly to Greece in 1881, the remainder in 1913.

Central Greece

South of Thessaly and Epirus, the region of Central Greece extends from the Ionian Sea on the west to the Aegean Sea on

*Women in village costume,
Metsovon, Epirus
Courtesy Sam and Sarah
Stulberg*



the east, encompassing the southernmost territory of mainland Greece. (Some geographers combine Thessaly and Epirus in their description of Central Greece.) The region includes the island of Euboea (Evvoia), which extends 180 kilometers from northwest to southeast parallel to the east coast of the mainland, separated from the mainland at the city of Khalkis, north of Athens, by a very narrow waterway. The island, which is the second largest in Greece, is formed by an extension of the Pindus spur from the Magnisia Peninsula to its north. Euboea's mountains are interspersed with fertile valleys that produce olives, grapes, and grains, although there are no major rivers. The east coast, which faces the Aegean Sea, is rocky; the island's only harbors face the Vorios Evvoikos and Petalion gulfs between Euboea and the mainland.

The mainland portion of Central Greece forms a "foot" extending southeastward from the Gulf of Amvrakikos, the inlet that defines the northern border of Central Greece on the Ionian seacoast. The main range of the Pindus Mountains extends southward into the western part of Central Greece. The Pindus Range is extended by the Parnassian Range, which is close to the mainland's southern shore and rises to 2,457 meters at Mt. Parnassus, mythical home of the Muses. The Helicon (Elikon) Range, which includes the historic city of Thebes

(Thivai), extends the Parnassian Range southeastward toward Athens.

The main rivers of the region are the Kifisos, which forms an east-west valley as it flows from the southern Pindus into the Gulf of Vorios Evvoikos west of Khalkis, and the Akheloos, which empties into the Ionian Sea after flowing southward from the mountains of Epirus. In the district of Boetia (Voiotia), between the Gulf of Corinth and Euboea, the Kifisos and the Asopos rivers form two extensive fertile plains where grain, tobacco, grapes, and olives are grown.

Athens

The province of Attica, which has been settled at least since 3,000 B.C., is where the classic Greek Attic dialect originated. Attica includes the capital, Athens (Athinai), which is surrounded by the largest metropolitan area in Greece, and Piraeus, Greece's chief port. Greater Athens includes forty-one municipalities and fifteen communes (see Local Government, ch. 4). It is the hub of Greece's import and export activity and the center of the largest industrial complex in the country, featuring a wide variety of light and heavy manufacturing enterprises. Average personal income for Athenians is higher than the national average.

The earliest known buildings in Athens were constructed about 1,200 B.C. Classical Athens, the city that existed from the fifth century until the third century B.C., is recognized as the cradle of Western civilization. It was home to the great generation of Greek playwrights that included Aeschylus, Aristophanes, Euripides, and Sophocles, to the philosophers Aristotle, Epicurus, Plato, Socrates, and Zeno, and to the sculptors Myron, Phidias, and Praxiteles. Under the rule of the great statesman Pericles, Athens reached the pinnacle of its golden age in the middle of the fifth century B.C.

In 86 B.C., Athens was conquered by the Romans, under whom it continued to flourish as a center of learning and fine architecture and sculpture. Although the Germanic Heruli tribe destroyed most of the city in A.D. 267, Athens continued as an important center of Greek scholarship until the Roman emperor Justinian closed its renowned schools of philosophy in A.D. 529. From that point, Athens assumed minor status, and Constantinople became the focus of Greek culture.

The seventh through the tenth centuries were the darkest period for the city. Some activity then revived in the centuries

that followed, before Athens was captured by the Crusaders in 1204. The Ottoman Turks captured the city in the fifteenth century, turning the Parthenon, the main temple built for the goddess Athena in the fifth century B.C., into a mosque. That conversion meant that the building had served three religions within three centuries after having been an Eastern Orthodox church under the Byzantine Empire and a Roman Catholic church after 1204. Athens was fully liberated from Turkish rule only when it was chosen as the new capital of the kingdom of Greece in 1833.

When Greece gained its independence, Athens was a market town with a population of a few thousand, built on and around the Acropolis, the 150-meter hill that was the center of the ancient city. In the decades that followed, Athens gradually returned to the central cultural, economic, and political role that it had enjoyed in classical times. By 1900 the population was about 180,000 and Athens was linked with the thriving port of Piraeus, on the Gulf of Saronikos to its southwest. The city's rapid population growth in the twentieth century has been largely because of immigration—from Turkey in the population exchanges of the 1920s and from Greek rural areas throughout the century.

The Nazi occupation of 1941–44 and the Civil War that followed in 1946–49 destroyed much of the city's infrastructure and most of the central city. Athens experienced a second phase of disorganized growth as it rebuilt after the Civil War. Rapid industrialization and population shifts, accompanied by widespread housing and highway construction, occurred without any plan for land utilization or transportation structure. (This problem was not new, however—travelers in the third century B.C. were already complaining about the complexity of the street pattern.) In the mid-1990s, Athens remained a complex, overcrowded central city.

The Peloponnesian Peninsula

The Peloponnesian Peninsula, also called simply the Peloponnesus, is a mountainous landmass connected to Attica, easternmost province of Central Greece, by an isthmus only six kilometers wide at its narrowest point. The isthmus is cut by the Corinth Canal, which allows marine traffic to move between the Aegean and the Ionian seas north of the Peloponnesus via the gulfs of Corinth and Patras. The canal, originally planned

by the Roman emperor Nero in the first century A.D. and completed in 1893, shortens this voyage by 325 kilometers.

The Pindus Range continues southward from the mainland across the peninsula, extending into each of the three peninsulas that are the southernmost points of the Peloponnesus. Between the mountains is the Plateau of Arcadia (Arkadia). Lowlands extend along the western and northern coasts, along inland river valleys, and in spring-fed mountain basins. Alluvial plains in the east and south are fertile, but agriculture requires irrigation. Most of the peninsula's rivers are dry in summer.

All the population centers of the Peloponnesus, except for Tripolis in the mountains, are on the periphery of the peninsula. Sparta, once the most powerful polis in Greece, is several kilometers inland on the plain of the Evrotas River. Corinth, another major polis of classical times (and the origin of the word *currant* because of its role in exporting that crop), is now a relatively unimportant small city on the northeast coast. The largest city is Patras (Patrai), an important industrial, commercial, and port city on the northern coast. The other major port is Kalamai in the southwest.

Crete

The largest island in Greece and the fifth largest island in the Mediterranean, Crete is 243 kilometers long and varies in width from twelve to fifty-six kilometers. It is located about seventy-five kilometers southeast of the easternmost peninsula of the Peloponnesus. The island's topography is dominated by rugged mountains that rise from the sea to form a rocky southern coastline. The slope downward to the northern coast is more moderate, forming a coastal plain and several natural harbors. The highest point is Mt. Ida (Idi), 2,456 meters high, roughly in the center of the island. The central east-west spine of mountains breaks into four segments; the major flatland is the Mesara Plain in the south-central region. That region and several upland basins provide agricultural land that has seasonal flooding. Crete has six rivers, whose flow varies greatly according to the season, and there is one fresh-water lake.

The center of the ancient Minoan civilization and the scene of many episodes of Greek mythology, Crete was settled in about 6300 B.C. (see *The Origins of Civilization: 3200–1050 B.C.*, ch. 1). Although the Minoan civilization ended about 1200 B.C., Crete's location in the eastern Mediterranean made it a natural link in the transfer of cultures from the Near East



*Slate-roofed houses in the Pindus Mountains
Courtesy Sam and Sarah Stulberg*

into Greece during the millennium that followed. After several centuries of Venetian rule, Crete was taken over by the Ottoman Empire in 1669. After Greece gained its independence, reunification of Crete with Greece became a burning international issue in the nineteenth century. After several uprisings against Ottoman rule and autonomous status between 1897 and 1913, Crete became part of Greece.

Although Crete historically yielded copper, iron, lead, and zinc, only gypsum and limestone are extracted in modern times. An estimated 20 percent of the land is totally unproductive, and 48 percent is used for grazing. The major agricultural products are olives, grapes, carob, almonds, and citrus fruits. The capital city, Heraklion (Iraklion), an important tourist center and port, is twice as large as the next largest city, Khania.

Heraklion has been severely damaged several times by Crete's frequent earthquakes.

The Ionian Islands

The Ionian Islands extend from the coast of southern Albania to the northwest coast of the Peloponnesus. The group, combined by administrative rather than geographic logic, includes many uninhabited rocks and islets as well as four large islands—Corfu (Kerkira), Leucas (Levkas), Cephalonia (Kefallinia), and Zacynthus (Zakinthos)—each of which, together with the smaller islands surrounding it, is governed as a separate province. Altogether, the Ionian Islands comprise 1.8 percent of Greece's land area.

The largest island, Cephalonia (746 square kilometers), is due west of the Gulf of Patras, which separates the western Peloponnesus from the mainland. Mountainous and rocky, Cephalonia and its smaller neighbor Ithaca (Ithaki) grow mainly olives and currants. Thirty centuries ago, Ithaca was the homeland to which the legendary Homeric voyager Odysseus sought to return after the Trojan War.

Corfu is the northernmost of the main islands, lying off the coast of Albanian Epirus and Greek Epirus. Corfu, with an area of 593 square kilometers, is dominated in the north by a mountain range that virtually severs its northern coastal plain from the territory to the south. The fertile southern lowland is cultivated intensively to grow olives, figs, citrus fruits, and grapes.

Settled by colonists from Euboea in the eighth century B.C., Corfu had a sporadically independent existence during the city-state era, participating on various sides in the wars among city-states in the fifth century and fourth century B.C. In the two millennia that followed, the strategic location of Corfu between Greece and Italy caused it to change hands many times; the capital city, Kerkira, contains a citadel built by the Venetians in 1550. The island was finally ceded by the British to Greece in 1864.

The third-largest and southernmost island, Zacynthus (402 square kilometers), lies off the northwest coast of the Peloponnesus. The island has a wide, fertile interior plain that provides more cultivated land than the other Ionian islands; currants are the main crop. The plain is enclosed on the east and west by limestone hills, which form steep seaside cliffs on the western shore.

Zacynthus, which was named after an ancient chief of Arcadia in the central Peloponnesus, was colonized by people from the Peloponnesus in the fifth century and fourth century B.C. The island was used as a base by the Athenians, then the Romans. After being sacked repeatedly by Vandals and Saracens and being fought over by Italian city-states between 1185 and 1484, Zacynthus was held by Venice until 1797. The years of British occupation ended with the cession of the Ionian Islands to Greece in 1864.

Leucas, smallest of the major Ionian Islands (303 square kilometers), hugs the coast of the southern Greek mainland, north of Cephalonia. The island's inland terrain is hilly, and the population is concentrated in the valleys and forests close to the east coast. The coastal lowlands are the main agricultural area, although higher basins farther inland also have fertile soil. The main crops are olive oil, red wine, and currants. A number of severe earthquakes have damaged populated places on Leucas in the nineteenth and twentieth centuries. A smaller island, Meganisi, lies off the southeastern shore and is administered together with Leukas.

Leucas was first colonized by Corinthians in the seventh century B.C. They dug a canal across the marshy isthmus that originally connected Leucas with the mainland. In the second century B.C., the Romans then built a stone bridge to reestablish the connection. Rome made the island's capital, Levkas, a free city in A.D. 167, but the island was subject to periodic invasions and changes of jurisdiction during the millennium that followed. In 1718 Venice gained control of the island; then France and Britain alternated possession in the nineteenth century until Leucas was ceded to Greece in 1864. A modern canal was dug across the isthmus in 1903.

The Aegean Islands

The Aegean Sea extends from Crete northward to the shores of Macedonia and Thrace, connecting with the Black Sea to its northeast through the Dardanelles Strait, the Bosphorus Strait, and the Sea of Marmara, which lies between the two straits. This configuration means that the Aegean Sea is the only route from the ports of Russia and Ukraine into the Mediterranean and to the rest of the world. The term *Aegean Islands* technically includes Crete and all the islands in the Aegean Sea between Greece and Turkey. Turkey possesses only two small islands at the northeastern end of the sea. Rights to the seabed and the

continental shelf adjoining the islands and the Turkish mainland became a major issue between the two countries in the 1980s (see Turkey, ch. 4).

The islands are geological extensions of the mountains of the Greek mainland, forming regional clusters in the Aegean Sea. (They once formed a land bridge from the mainland to Asia Minor.) The Northern Sporades, off the east coast of the Greek mainland, are administratively part of Thessaly. The Cyclades (Kiklades) are a larger, denser group of twenty-four islands southeast of the Peloponnesus and directly north of Crete. Most of the islands in this archipelago are dry, rocky, and infertile, but two—Naxos (the largest) and Siros (location of the provincial capital, Ermoupolis)—have enough fertile land to grow fruit and vegetables. Naxos has fertile and well-watered valleys as well as the highest elevation among the island group, 1,007 meters. The mostly uninhabited island of Delos (Dilos) around which the Cyclades rotate according to legend, is the mythological birthplace of the god Apollo; it has become an important archaeological site and tourist attraction.

East of the Cyclades and closest to the Turkish coast are the Dodecanese (Dodekanisos) Islands, an archipelago including fourteen inhabited and eighteen uninhabited islands that were held by Italy until 1947. (The composition of the group has varied over time, as indicated by the name, which means "the twelve islands"—referring to the inhabited portion of the group.) Except for the two largest islands, Rhodes (Rodos) and Cos (Kos), the islands are deforested and have poor drainage.

Rhodes, the largest and easternmost of the island group, has an area of 540 square kilometers. Lines of hills run parallel from northwest to southeast, perpendicular to a ridge that follows the entire northwest coast, reaching an elevation of 1,200 meters. The inland valleys and coastal plains offer rich land for pasturage and grain cultivation.

A part of the ancient Minoan civilization, Rhodes was an important commercial center under Dorian tribes from the mainland around 1,000 B.C., then again in classical times. A bronze statue of the sun god Helios, often called the Colossus of Rhodes, stood at the harbor entrance of the capital city, Rodos, and was one of the seven wonders of the ancient world. An earthquake toppled it in the third century A.D. In the classical period, Rhodes was independent, shifting its loyalty among Athens, Sparta, and Persia. Its most notable role in subsequent history was as an island fortress of the Christian Knights Hospi-

tallers against the Turks between the early fourteenth and early sixteenth centuries. In the twentieth century, tourist trade has made Rhodes prosperous. The island produces mainly wine, grain, and fruit.

Cos has a limestone ridge along its southern coast and a fertile lowland, watered by springs farther inland, along the northern coast. The central lowland also produces fruits, vegetables, olives, and tobacco. The coast provides one usable harbor.

The islands of Samos and Ikaria are located just north of the Dodecanese group; together with a small island group, the Fournoi, between them, they form a single province. Samos is unique among the Greek islands because it is covered with trees; its fertile farmland produces olives and grapes. Ikaria and the Fournoi lack fertile land. The island of Chios (Khios), midway up the Turkish coast, is mostly mountainous, but fertile plains in the south and east allow cultivation of fruit and grapes. Lesbos (Lesvos), Lemnos (Limnos), and Ayios Evstratios are the three northernmost Aegean islands. Lesbos, third largest of the Greek islands, has rugged inland terrain with well-irrigated coastal lowlands and foothills where olives are the chief crop. Lemnos, equidistant between the easternmost spur of the Khalkidiki Peninsula and the Turkish mainland, has comparatively flat terrain, but water is scarce and the island is best suited to raising sheep and goats rather than agriculture.

Climate

The dominant condition of Greece's climate is the alternation between hot, dry summers and cold, damp winters typical of the Mediterranean. But considerable local variation results from elevation and distance from the sea. Generally, continental influences are felt farther north and in the center of the mainland. The main climatic regions of Greece are the mainland mountains, Attica (the southeasternmost part of the mainland) and the Aegean, the west including the Ionian Islands, and the continental northeast.

In winter low-pressure systems reach Greece from the North Atlantic, bringing rain and moderating temperatures but also drawing cold winds from the eastern Balkans over Macedonia and Thrace as they pass into the Aegean Sea. The same low-pressure systems also draw warmer winds from the south, creating an average January temperature differential of 4°C between Thessaloniki (6°C) and Athens (10°C). Cyclonic depressions provide the lowlands of the west and the south with mild win-

ters and little frost. Beginning in late fall and continuing through the winter, the Ionian Islands and the western mountains of the mainland receive abundant rain (snow at higher elevations) from the west, whereas the eastern mainland, shielded by the mountains, receives much less precipitation. Thus the average annual rainfall of Corfu off the west coast is 1,300 millimeters; that of Athens on the southeastern mainland is only 406 millimeters.

In summer the influence of low-pressure systems is much less, allowing for hot, dry conditions and an average sea-level temperature of 27°C in July. Summer winds have a moderating effect along the coast, but very dry, hot winds have a parching effect that causes drought in the Aegean area. The Ionian and Aegean islands are especially warm in October and November.

Elevation has an appreciable effect on temperature and precipitation at all latitudes, however. At higher elevations in the interior, some rainfall occurs year-round, and higher mountains in the southern Peloponnesus and on Crete are snow-capped for several months of the year. The mountains of Macedonia and Thrace have colder continental winters influenced by winds channeled through the river valleys from the north.

The Environment

In the years after World War II, several factors placed severe stress on Greece's natural environment. Expansion of industrial activity, the rapid increase in motor vehicles, the influx of foreign tourists, and uncontrolled land use have lowered air and water quality and depleted Greece's already limited pristine regions. In response, over the past two decades Greek governments have passed many laws and general policies, but Greece generally has lagged behind other West European countries in environmental protection.

Pollution Problems

Athens has become known for poor air quality. During the city's frequent severe incidents of *nephos* (smog), many citizens require medical care for circulatory and respiratory ailments. Athens's climatic conditions favor formation of photochemicals that trap pollutants close to the ground, partly because the reconstruction activity that began after World War II has proceeded without a comprehensive plan for traffic and industrial

Peasant woman carrying firewood; sign, common in Greek countryside, says "Dumping of trash and construction materials strictly prohibited." Courtesy Sam and Sarah Stulberg



location. The same conditions contribute to air pollution in Thessaloniki, but to a lesser degree. More than half the total vehicles in Greece are in the Athens and Thessaloniki areas, and their number doubled between 1983 and 1992.

Sulfur dioxide, contributed chiefly by industrial effluents, has severely damaged stone buildings and monuments in Athens and Thessaloniki and generated acid rain that has caused some deterioration to forests in Epirus, Macedonia, Central Greece, and around Delphi, east of Athens. According to estimates, the Parthenon, the best-known of Greece's remaining architectural monuments from classical times, has sustained more atmospheric damage since 1970 than it did in its first 2,000 years of existence.

The largest single source of sulfur dioxide pollution, the oil-burning electric power station in the industrial center southwest of Athens, was closed in 1994 except for emergency power supply. Other heavy polluters are the chemical, textile, and nonmetallic mineral industries established in the Athens region during the boom of the 1970s. Fuels used by Greek industries generally have a slightly higher sulfur and lead content than those used in other European countries, but central heating plants use high-sulfur oil. Winds also transport sulfur dioxide from industrial centers in neighboring countries. Air quality over the major Greek islands has remained good,

except for a few population centers such as Heraklion on Crete.

Water pollution has likewise become a serious problem because of industrialization and development policies. Greece has shared in the general deterioration of water quality in the Mediterranean Sea in recent decades. In addition, Greece has drained many lakes completely to generate hydroelectric power or to expand agricultural land. Several animal species have disappeared from Greece as a result of habitat alteration caused by this process. An extended drought (1987–93) diminished both water quantity and water quality in rivers and lakes, causing chronic water shortages in the largest cities and limiting the growth of natural vegetation. Harbors and lakes adjacent to industrial centers, especially the Gulf of Saronikos south of Athens, upon which about half of Greece's industry is located, receive large quantities of untreated industrial waste and municipal sewage. Experts describe the inner gulf as nearly devoid of life. The same type of urban pollution occurs in Thessaloniki's Gulf of Thermaikos. Altogether, about fifty urban centers deposit sewage into the seas surrounding Greece. Ships pump out their bilges and oil as well. In 1994 only 10 percent of the Greek population was served by wastewater treatment plants and, in spite of Greece's extensive coastline, it produced only 0.1 percent of the world's catch of fish.

Since 1970 drastic increases in agricultural application of chemical fertilizers and pesticides have added a new source of runoff pollution. Rivers farther from industrial regions have remained relatively clean, but the diversion of the Akhelooos River for hydroelectric power generation in the southwest corner of the mainland was expected to have a drastic ecological effect beginning in the 1990s.

Greece's soil, naturally poor in organic matter, has been degraded further by uncontrolled use of fertilizers and by soil erosion. (Erosion is hardly a new problem, however—Plato described the erosion of Greece's hills 2,400 years ago.) Together with chronic droughts, erosion has caused accelerating desertification in many agricultural areas (see *Agriculture*, ch. 3). Vegetation has also been stripped by overgrazing and the clearing of steep slopes for construction projects. About one-third of Greece's irrigated farmland suffers from saline deposits. The agricultural fields of Thessaly and Macedonia, on the other hand, do not have salinization or erosion problems.

Environmental Policy

The crises that became visible in the 1970s and closer integration with Western Europe have brought a proliferation of environmental legislation. By 1990 over 800 issue-specific environmental laws and decisions were in force, but few comprehensive laws tied them together into policies that could be enforced nationally. Among major international environmental agreements, Greece is a signatory of the 1987 Montreal Protocol on ozone-depleting substances and the International Tropical Timber Agreement of 1983; the nation did not sign the Convention on International Trade in Endangered Species (CITES); it signed but did not ratify the United Nations Convention on the Law of the Sea (UNCLOS).

The constitution of 1975 gives the state authority over Greece's environment and natural resources. The National Council for Physical Planning and the Environment, established in 1976, has concentrated on industrial planning rather than environmental issues. The authority of the Ministry of Environment, Town Planning, and Public Works, which was formed in 1980, has varied under different administrations and has suffered from internal contradictions when the ministry is assigned large public works projects. Meanwhile, all ministries whose activities affect the environment have maintained independent environmental departments not answerable to the environmental ministry.

The basic principles of Greece's environmental policy are set forth in the 1986 Law On the Protection of the Environment. The law, which provides for no autonomous environmental regulatory agency, requires nearly 100 implementation decisions by government agencies—many of which had not been enacted by 1994—before going into full effect. The unwieldy nature of the bill has promoted bureaucratic obstructions at many points, prior to approval.

The first set of standards for atmospheric pollution in Athens emerged in 1982 as part of a United Nations-sponsored pollution control project that had been initiated by the military junta (see *The Junta*, ch. 1). The standard traffic limitation measures in the central city, allowing private vehicle access only on odd or even days, are tightened when pollution indexes are especially high, which happened only nineteen times between 1982 and 1989. Heavy fines are levied for violation of the access law. A large pipeline, designed to carry industrial waste from the Athens region to biological treatment facilities, was eight

years behind schedule in 1992, casting doubt on the likelihood that the treatment facility would be built.

Land-use policy is a very controversial issue in Greece. The need for new landfills is urgent because landfills are crucial to the solid-waste management program, but agreement on sites has been extremely rare. Experts consider an industrial decentralization policy especially urgent to end random construction of new plants and to prevent further concentration in the urban centers of Athens and Thessaloniki. Some financial disincentives to further construction in Athens are in place, as are financial incentives to construction elsewhere. But no overall policy is in effect.

Greece has been lax in enforcement of the environmental guidelines of the European Community (EC) and its successor, the European Union (EU), affecting Greece's international waters. Three EC directives on water-resource protection and the international water management conventions of Ramsar and Verni are not followed by Greek authorities.

Environmental politics in Greece are characterized by strong special-interest groups and a relatively weak environmental movement that began in 1972. The Greek political tradition of close patronage relationships between government figures and private citizens of influence has distracted administrations and fragmented public pressure on environmental issues. This phenomenon was most obvious in the mid-1980s, after the Panhellenic Socialist Movement (Panhellinion Socialistiko Kinima—PASOK) had been elected on a platform promising significant environmental improvement. In that period, a series of ambitious reforms was defeated by special-interest pressure, and by 1984 PASOK had forsaken the bulk of its environmental platform for the duration of its 1981–89 tenure (see *Political Developments, 1981–94*, ch. 4).

Policies attacking industrial pollution are resisted by the Association of Greek Industrialists and well-organized groups of small industrialists, both of which carry considerable influence with the economic ministries and the leaders of both major parties. Innovations, such as lower tariffs on fuel-efficient imported vehicles and development of alternative mass transportation, meet the opposition of economic ministries that gain much revenue from taxes on vehicles. Well-organized Greek automobile dealers also have a stake in continued use of privately owned vehicles.

Ministries responsible for infrastructure projects and the construction industries that carry them out oppose land-use and conservation policies. Stefanos Manos, an industrialist and a pioneer of environmental planning as a minister in the government of Konstantinos Karamanlis in the late 1970s, was forced to resign in 1979 because his program would have required building projects to include services such as sewers and roads. In 1982 industry pressure ended a major PASOK urban reconstruction program, replacing proposed stricter standards with more lenient ones that exacerbated the problem of uncontrolled urban land use. In the New Democracy (Nea Demokratia—ND) administration of Konstantinos Mitsotakis (1990–93), the policy of stimulating economic activity further strengthened ministries and enterprises involved in building the country's infrastructure. In this period, the Ministry of Environment, Town Planning, and Public Works was not able to reconcile conflicts between environmental and economic interests because government agencies resisted transferring their environmental responsibilities.

Regional groups started mobilizing to promote environmental protection in the mid-1970s. Beginning in 1973, a number of major regional efforts were incorporated into national political agendas and thus achieved many of their goals. In the 1980s, demonstrations began in Athens (including one in 1986 after the Chernobyl nuclear power plant disaster in the Soviet Union), and the ideological basis of organizers became more sophisticated. Nevertheless, in the early 1990s Greece's environmental social consciousness remained quite fragmented and localized, and efforts by "green" groups to achieve representation in the Assembly have been marginally successful at best.

In the early 1990s, progress in environmental protection in Greece was the result of increasing media attention to escalating problems; also of pressure from the EC and the EU to uphold national and international obligations and pass environmental legislation; of major decisions made by the Council of State, the highest administrative court in the nation, overturning anti-environmental government policies; and of the activity of a small group of autonomous nongovernmental environmental organizations. Those organizations have mobilized citizens in response to specific issues such as the 1991 proposal to ease industrial location policy by the Ministry of Environment, Town Planning, and Public Works and the continuing

need for urban smog control. Fishing interests organized an especially successful organization, *Helmepa*, to oppose water pollution. Activist groups have brought legal proceedings successfully before the Council of State and agencies of the EU.

Demography

Most of the dramatic postwar changes in the size and location of the Greek population had ended by 1990. Birth rates are low in Greece, as in the rest of Europe, and the average age of the population is expected to continue rising in the foreseeable future. Emigration, a traditional part of Greece's demographic pattern, remains steady at a quite low level, but political events in Albania and the former Soviet Union have posed serious dilemmas in immigration policy.

Population Characteristics

At the time of the 1991 census, the population of Greece was 10,264,156, an increase of 524,000 (5.4 percent) since 1981. In 1991 population density was 78.1 persons per square kilometer—a misleading statistic because much of Greece's mountainous territory is uninhabited (see fig. 8). The birth rate has been shrinking steadily since its peak of 20.3 births per 1,000 inhabitants in 1951; between 1984 and 1991, the rate decreased from 12.7 to 10.1 births per 1,000 persons, placing Greece at or below the average growth level of nearly all other Western industrialized nations. Males, whose average life expectancy of seventy-five years is five years less than that for females, make up 49 percent of the population.

In 1990 approximately 59,000 marriages took place in Greece. Of the women who married that year, most (40 percent) were in the age-group between twenty and twenty-four, while 26 percent were between twenty-five and twenty-nine. Of the men, 38 percent were between twenty-five and twenty-nine, and 22 percent were in each of the age-groups immediately younger and older. In 1991 some 6,351 marriages, or 0.6 percent, ended in divorce. Of the 102,229 births recorded in 1990, some 7 percent were to women aged fifteen to nineteen, 31 percent to women between twenty and twenty-four, and 34 percent to women between twenty-five and twenty-nine.

In the early 1990s, demographic forecasts predicted that the population would remain virtually stable in the period between 1990 and 2010; however, the demographic characteristics of

the population were changing dramatically. In 1990 the working-age population (people between ages fifteen and sixty-four) numbered 6,703,000, or 66 percent of the total. An expected rise of over 600,000 in the elderly population (from 14 percent to 20 percent of the total) would shrink the percentage of working-age Greeks to 64 percent by 2010. In the same period, young adults (ages fifteen to twenty-four) were expected to drop from 15 percent to less than 11 percent of the total. Greece is therefore participating in the general European trend of aging populations and fewer individuals entering the workplace, but in 1991 Greece's ratio of thirty-one elderly people per 100 working-age citizens was the highest in Western Europe.

Since World War II, the population of Greece has shifted noticeably into the geographical axis defined by Athens in the south and Thessaloniki in the north. The highest rates of migration occurred between 1950 and 1967, a period of major change in all of Greek society (see *The Social Order*, this ch.). As people flocked to Athens in greater numbers than at any time since the late nineteenth century, the average annual growth rate of the capital exceeded 4 percent between 1951 and 1956 (see table 2, Appendix). After the hardships of World War II and the Civil War, the government's promise of new economic opportunity, centered in Athens, attracted many villagers. Between 1955 and 1971, an estimated 1.5 million farmers left their land. In the 1960s, the share of agricultural workers in the work force dropped from 53 percent to 41 percent (see table 3, Appendix).

As the first members of rural families established lives in the city, they formed the basis for a type of chain migration. In 1960 an estimated 56 percent of the inhabitants of Greater Athens were postwar migrants. The trend slowed somewhat in the 1960s and 1970s, but in those decades Athens grew by 37 percent and 19 percent, respectively, and Thessaloniki grew by 46 percent and 27 percent, respectively. Migration to Athens came mainly from southern Greece and the islands, that to Thessaloniki from the north of the country. By 1981 cities with more than 10,000 people contained 56.2 percent of the population, towns of 2,000 to 10,000 people contained 11.9 percent, and the remaining 31.9 percent lived in villages or rural communities.

In 1991 the population of Athens, the largest city, was 748,000, but the population of Greater Athens, including its

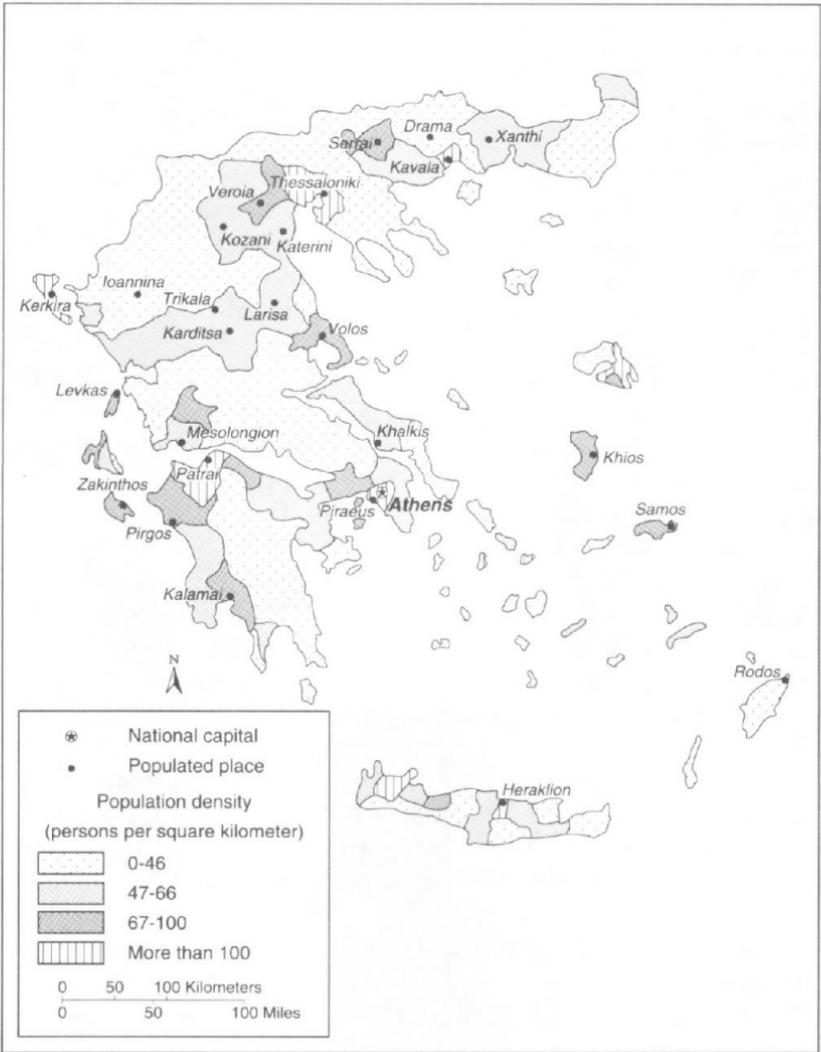


Figure 8. Population Density, 1994

port city of Piraeus, was 3.1 million. The second largest city, Thessaloniki, had 396,000 people in 1991, but only four other cities, Patras, Heraklion, Volos, and Larisa, had populations over 100,000.

Emigration and Immigration

The long tradition of emigration from the Greek mainland

began in the eighth century B.C., when Greeks began to colonize the shores of the eastern and western Mediterranean Sea and the Black Sea. Overpopulation, foreign trade, and self-improvement have remained the primary incentives for emigration through the last 2,700 years, although specific political and economic factors have varied.

The Greek diaspora, or dispersion of Greeks to other parts of the world, occurred in phases determined by historical events. In the fifteenth century, the fall of the Byzantine Empire to the Ottoman Turks triggered large-scale emigration to avoid foreign domination. In the later centuries of Ottoman rule, however, Greeks moved around the Mediterranean to take advantage of favorable trading conditions that became available as far away as Odessa and Marseilles (see *The Ottoman Era*, ch. 1). Later waves of emigration followed the appearance of new markets in Egypt and Asia Minor in the nineteenth century, the destruction caused by World War II and the Civil War of 1946–49, and the economic woes of the mid-1960s. Conversely, major immigrations occurred after independence was won in 1832, with the population exchange of the 1923 Treaty of Lausanne, and when the restriction of minority rights drove out the Greek émigré communities in twentieth-century Russia, Bulgaria, Turkey, and Egypt.

Before 1890 Greek emigrants went mostly to other areas of the Mediterranean. In the twentieth century, however, the favored destinations have been Australia, Canada, and the United States, in all of which sizeable Greek communities have developed. The number of United States citizens with Greek ancestry has been estimated as between 1 million and 3 million.

Between 1944 and 1974, nearly 1 million persons emigrated from Greece, a far higher number than those who immigrated. Beginning in the 1960s, over two-thirds of long-term Greek emigrants went to Western Europe, mainly as guest workers. As many as 80 percent of those workers went to the Federal Republic of Germany (West Germany) in the 1960s and the early 1970s. In 1973 about 430,000 Greeks were working in West Germany. After 1974, however, emigration began dropping sharply, finally stabilizing at a rate of a few thousand persons annually. After a flurry of immigration in the late seventies, mainly as a result of the return of Civil War political refugees and most of the West European guest workers, the

return of Greeks to their homeland from Western Europe also stabilized at a rate of 3,000 and 5,000 persons per year.

In the early 1990s, about 500,000 foreign citizens were living in Greece, of whom about 300,000 were working or seeking employment. Thus nearly 5 percent of the total population and 7.5 percent of the workforce was foreign. Substantial portions of some national groups, especially Albanians and Egyptians, were in the country illegally. Since 1987 about 37,000 persons of Greek origin who formerly lived in the Soviet Union entered Greece. An estimated 500,000 ethnic Greeks remain in the former Soviet Union, returning to their homeland at a rate of 2,000 to 5,000 per year in the early 1990s.

Since the early 1970s, the population of legal foreign workers in Greece has remained steady at about 30,000. Until the mid-1980s, illegal employment of foreigners was confined mainly to seasonal work in agriculture and tourism; after sharp increases in the last decade, however, the number of illegal foreign workers is estimated to be almost ten times greater than that of legal foreign workers. Little social conflict has resulted from this change, however, because illegal workers most often solve seasonal and unskilled labor shortages rather than competing with Greeks for more desirable jobs.

Current government policy is to aid Greek citizens to return from abroad and to accept Greek immigrants from the former Soviet Union. In general, Greece does not encourage naturalization of immigrants, however. It cooperates with other EU countries to develop common migration policies and to reduce illegal immigration.

The case of Albania presents unique problems for the makers of immigration policy. Under Albanian communist regimes, the status of the Greek minority in Albania, estimated variously between 59,000 and 400,000 in 1989, was a troublesome issue between the two countries. The chief disputes concerned the number of Greeks in Albania and the extent of their freedom of expression, religion, and culture. Although tension lessened in the late 1980s, the large-scale flight of Greeks (and Albanians) from postcommunist Albania into Greece presented a new version of the previous ethnic tension.

Ethnic Minorities

The population of Greece is quite homogeneous, with an estimated 98 percent of Greek descent. The largest minority groups are Albanians, Armenians, Bulgarians, Roma (Gypsies),

Macedonian Slavs, Pomaks (Muslim Slavs from Bulgaria), Turks, and Vlachs (a Romanian group). The Muslim population, estimated at about 120,000, is concentrated in Thrace (Greece's easternmost land region) and the Dodecanese Islands off the southwestern coast of Turkey, because the Treaty of Lausanne (1923) repatriated all Turks from Greece except for those in Thrace and the Dodecanese Islands. In the early 1990s, the Albanian population fluctuated and caused international tension as illegal refugees entered Greece to escape Albania's unstable conditions.

The Social Order

As late as 1980, an estimated two-thirds of murders or attempted murders in Greece were inspired by a male's need to uphold family honor in the face of public humiliation caused by the victim (see *Crime*, ch. 5). Although many of the superficial aspects of traditional social behavior, relationships, and roles have changed, especially in the cities, modern Greek society still retains elements of a much more traditional set of values, such as the protection of a family's reputation. Nevertheless, since the nineteenth century upward mobility has been unusually common in Greece; because the ideal of generational improvement has been widely distributed, Greece's class system has been much more flexible than that of other European countries.

The Family

The family is the basic social unit of all strata of Greek society, whether rural or urban. For an individual not to marry or to remain separate from his or her family is viewed as unusual behavior. Sons and daughters still live with their families until they marry, bypassing the Western tradition of living independently between those two stages of life. Families play a large role in selection of a mate, although the traditional arranged marriage is now less frequent than in previous generations. In rural areas, tradition calls for courtship to be a time when society examines a young woman's conduct to evaluate her character. A potential groom and his family still consider a woman's reputation, health, age, and appearance, although the elements of reputation have changed since the 1960s. Until the late 1960s, modesty and innocence, the chief ingredients of a young woman's honor, were demonstrated by her dress as well

as her behavior. By 1970, however, young women commonly dressed in fashionable West European styles, and chaperones were no longer required.

The basic household, or nuclear family, includes a husband, wife, and their unmarried children. This unit may also include a parent or another family relative, and in some regions a young married couple may live with the parents of one spouse until they can gain financial independence. In village tradition, the groom takes his bride to live at least for a short time with his parents; they may remain in that house or one in the same village, creating an extended family. In the Cyclades Islands and the Dodecanese Islands, the wife's parents and village are the traditional destination of the newlyweds. The same pattern has been adapted to city life, where the wife's parents may provide housing for in-laws from several areas of Greece.

The primary purpose of marriage is thought to be to produce children, without whom the couple would not be happy. The second goal is preservation and augmentation of the family property from the previous generation. In rural areas, the nuclear family is a source of agricultural labor. Other forms of family enterprise, such as fishing and small businesses, receive similar benefits from offspring.

The Role of Women

In some ways, the traditional roles of women in Greek society have been differentiated by class. Until the end of World War II, the economic basis of most of society was either agriculture or fishing, activities that were simply passed down through generations, together with the social structures that made them work best. The common view historically was that women were basically inferior, sexually dangerous, and vulnerable. Accordingly, women were expected to exercise authority over others only informally and in specific parts of the extended family and society.

In the traditional standards for peasant women, honorable behavior, or *philotimo*, required caring for the family and remaining in a domestic context where they were submissive to the opinions and demands of men. The actual ingredients of that cultural code of honor varied somewhat among regions and even among villages. In general, however, women were taught to restrain sexual impulses because failure to do so would tempt men into improper conduct. Straying from this code brought shame to the woman and social derision to her

husband, if the woman were married, because he would be expected to control his wife. Marriage and motherhood transformed a woman's image from that of modest virgin to the dominating force in the household and among her children. Within the private sphere of the family, the opinions of the wife and mother received great respect as she evaluated the behavior of her husband and children. Her role was especially important in protecting the family's honor.

In both urban and rural society, motherhood remains an important ideal, grandmothers still play an important role in child rearing, and women continue to be the chief social links and organizers of rites of passage—in spite of the variations that urbanization has introduced into the structure of such relationships. Rural life provides a closer-knit social and family grouping, whereas urban wives see their relatives less often and have fewer close bonds with the informal support system composed of neighbors. The faster pace of social change in the cities also shrinks the common ground of understanding between mothers and daughters.

The Westernizing influence of the nineteenth century brought noticeable changes in the external lifestyle of women in the Greek oligarchy. But, as women imitated the wives of Western monarchs and diplomats, they lost the fundamental economic role and the practical skills possessed by women in rural Greek society. Some experts argue that this development actually reduced the image of women in the Westernized elite, turning them into social ornaments. At the same time, however, the basic prescription for modest virginity before marriage and fidelity and demure behavior after marriage persisted in the elite as it did in the lower classes.

The active participation of women in the Greek resistance movement of World War II brought about fundamental changes in their relation to men in Greek society. Then, in the postwar years, urbanization, industrialization, and the consequent growth of the middle class led to massive changes in Greek society, and Western alliances internationalized the outlook of Greeks. Women received the right to vote in the early 1950s, and a new class of female wage earners grew rapidly in economic and bureaucratic fields. The growth of participation was slower in politics.

In two notable periods, military governments attempted to crush women's movements in Greece. In the 1930s, the regime of Ioannis Metaxas had repressed the League of Women's

Rights. The last concerted effort to reassert the traditional norms, values, and behavior for women occurred between 1967 and 1974 under the military regime of Georgios Papadopoulos. The Papadopoulos regime's demands for subservience by women, the institution of dress codes for women, and the prohibition of mixed social events for students yielded a sharp increase in women's demands for equality and liberation when the regime was toppled in 1974.

Despite the repression of women's rights groups, women played an active role in opposition to the military regime, and the Greek feminist movement expanded and diversified during that period. The feminist dialogue already prominent in Western Europe and North America spread gradually into Greece in the 1970s, although women's organizations often lost their autonomy as they and their agendas became subordinate to the leftist political parties that gained strength at the same time (see *The Return of the Left*, ch. 4).

The pressure brought by women's movements, combined with economic needs, broadened general support for major social legislation by the first PASOK administration (1981–85) of Andreas Papandreou. Accordingly, the Family Law of 1983 made equality of the sexes the law of the land. Until that time, the husband had formal authority within the family, in representing the family to the world outside the home, and in acting as host and main provider. The 1983 law replaced these familial relationships with even distribution between the spouses of decision-making authority and obligations to contribute to family needs. The husband no longer could legally administer a wife's property or forbid her to work. Naturally, legislation in such private matters had only a gradual impact in a highly traditional society.

The decriminalization of adultery was another legislative reform of the early 1980s that had resonance in the structure of Greek society. The overturned adultery statutes, whose application followed the traditional sexual stereotypes by falling predominantly on women, had called for fines or imprisonment. Legalization of abortion, a process that had begun in the late 1970s with expansion of the conditions under which the law permitted abortion, brought conflict with the Orthodox Church and conservative elements of secular society. Abortion on demand at state expense was legalized in 1986. The number of legal abortions rose from 180 in 1985 to 7,338 in 1989.

Between the end of World War II and the mid-1980s, as more women moved to cities and finished rearing their families while still young enough to work, women's participation in the Greek work force increased dramatically. Between 1977 and 1987, the share of women in the work force increased from 32 percent to 43 percent (although growth in that figure stopped for a period in the mid-1980s). The female work force in 1987 included almost 45 percent in agriculture, 22 percent in industry, and 34 percent in the service sector. Experts differed sharply, however, as to whether a given job was now more open to a person of either sex or whether more women-only jobs had merely been created during that period. Women's participation was encouraged by the legal requirement of twelve to sixteen weeks of maternity leave at full pay, a rule strengthened in 1992 by the EC's requirement that all member countries offer at least fourteen weeks with at least statutory sick pay.

The educational advancement of women paralleled their entry into the work force in the 1980s. The share of female university students grew from about 30 percent in the 1970s to about 53 percent in 1989, although a disparity remained between the sexes in the numbers holding university degrees in the late 1980s. In 1990 Greece lagged in availability of part-time postsecondary education programs, which affected women more than men.

Women have moved into Greek government circles gradually, although more rapidly than in most other Western countries. The three PASOK administrations, which took office in 1981, 1985, and 1993, respectively, each had a female minister of culture (for most of that time, the actress Melina Mercouri) and several female deputy ministers; in 1993 the Ministry of Justice of the Mitsotakis administration was headed by a woman. In the 1980s and the 1990s, the ministries of culture, health, welfare, and social security and foreign affairs usually had at least a female deputy minister. The first woman was elected to the national legislature, the Assembly, in 1954, and since that time many women have been elected to that body. A political party, Synaspismos, was led by a woman for several years in the 1980s. And in 1994, the leader of the Communist Party of Greece (Kommunistikon Komma Ellados—KKE) was a woman.

Religion

An estimated 97 percent of the country's population identi-

fies itself as belonging to the Greek branch of the Eastern Orthodox Church of Christ, commonly known as the Orthodox Church of Greece. The Greek church became autocephalous (independent of the patriarchate in Constantinople) in 1833, shortly after Greek independence, but a close relationship remains among most branches of Orthodoxy (see *Out of the Ottoman Empire*, ch. 1). In many respects, church and state are not separate in the Western sense in Greece. In spite of reforms in the 1980s and a loss of some influence since World War II, the Orthodox Church remains the officially established religious institution of the country, and from that position it exerts considerable influence in secular matters (see *Church and State*, ch. 4). The largest non-Orthodox religious groups in Greece are Roman Catholic, Protestant, and Muslim.

The Orthodox Church of Greece

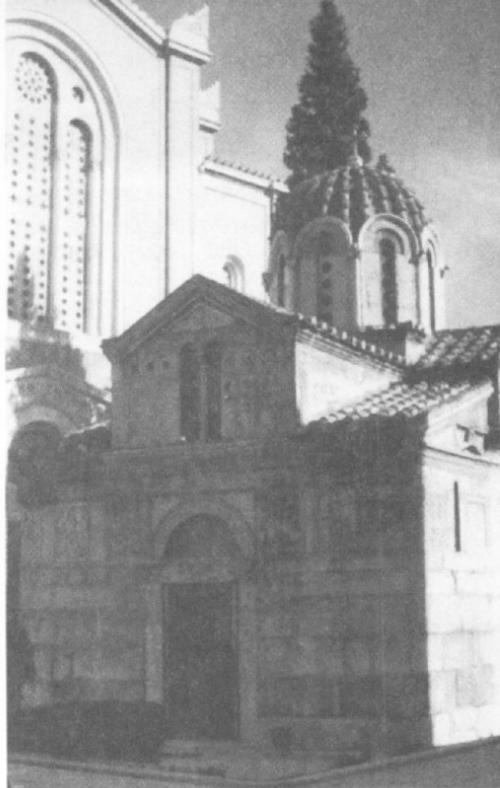
An important aspect of Greek culture is the close connection between "being Greek" and "being Orthodox," which is based on long historical tradition. In the Byzantine Empire (A.D. 330–1453), the emperor was called God's vice-regent and his empire a model of heavenly order. Given this status, the emperor could preach and receive communion like a priest and convene church councils. Under the Ottoman Empire (1453–1821), the patriarch of Constantinople exercised wide-ranging secular powers over Orthodox Christians in Greece and elsewhere in the empire (see *The Nature of Ottoman Rule*, ch. 1).

The constitution of 1975 describes the Orthodox Church as the "established religion" of Greece. The seemingly minor change from the previous constitutional term *state religion* was considered a significant recognition of religious plurality when the new constitution was adopted.

The official status of the church confers special privileges and obligations. For example, the president of Greece must be affiliated with the church; he or she is sworn in according to the rites of the church; and major church holidays are also state holidays. Most top positions in the military, the judiciary, and public schools are de facto restricted to Orthodox candidates. Although the constitution stipulates freedom of religion, it also forbids all religious groups to proselytize among Orthodox believers unless they have specific permission. Although Greek law in general neither defines proselytization nor enforces the prohibition, foreigners and Greeks affiliated with



*Roadside prayer shrine,
Epirus
Courtesy Sam and
Sarah Stulberg*



*Ninth-century Byzantine
cathedral of Saint
Eleutherios, Athens
Courtesy Bernice Huffman
Collection, Library of
Congress, Washington*

some non-mainstream religious sects occasionally have been imprisoned for religious activities construed as violating the constitution. Catholics, Jews, and Muslims have not received such treatment, however.

The church depends on the state for financial and legal support: the state pays the clergy, subsidizes the church budget, and administers church property. (In the 1980s, the church turned down an opportunity to gain greater economic independence by reorganizing its finances to pay the clergy directly.) Religious education is mandatory for Greek Orthodox children in public primary and secondary schools, and the state subsidizes religious studies at institutions of higher learning. The church is supervised by the Ministry of Education and Religious Affairs.

The institutionalization of Greek Orthodoxy as the official state religion gives the church a powerful voice in political policy making and the organization of society. The church also has a vested interest in preventing social reform that would weaken the established social order and blur the identification of "Greekness" with Orthodoxy. Its defense of traditional values has been especially strong on issues such as the role of women; particularly in rural areas, the attitudes and values of women are predominantly defined by church doctrine.

In 1981 the socialist PASOK government led by Andreas Papandreou came into power promising to reform antiquated aspects of Greek society. The separation of church and state was one element among PASOK's proposals. In subsequent years, the church objected strongly to separation and forced capitulation or compromise on most issues. The conservative ND, Papandreou's main opposition, had given only tepid support to the separation of church and state prior to 1981, but, beginning with the 1981 election, the ND changed its position to one of strong opposition to separation and to the rest of PASOK's social reforms.

The only successful PASOK proposal that directly affected the church was the legalization of civil marriage ceremonies. Until 1983 the church had recognized only religious marriages and forbidden the marriage of Orthodox believers to nonbelievers. Seeing the socialist legalization of civil marriage as a threat to the foundations of society, the church used its influence in the Ministry of Education and Religious Affairs to force a compromise in the Family Law of 1983. The original legislation would have made civil marriage the only legally recognized form, with religious marriage merely an optional ceremony. The compromise made both forms legal. Since that time, about 95 percent of marriages in Greece have occurred in the church; a large share of the civil ceremonies involved a partner not of the Orthodox faith.

The ownership of church property was another controversial issue of the 1980s because the socialists proposed transferring fallow farmland owned by the church through a state agency to agricultural cooperatives for cultivation. This suggestion, originally made by the military dictatorship in the late 1960s, was finally abandoned in the early 1980s because of the hostility it aroused from the church toward the government. In 1987 the minister of education and religious affairs, Antonis Tritsis, revived the proposal—purportedly not as an effort to weaken

the connection between the church and Greek nationhood, but to increase the church's participation in civil society. Although large numbers of lay intellectuals and some church officials supported the idea initially, the public and most of the church hierarchy saw it as an attack on church prerogatives. Under strong pressure from that constituency, supporters in the church withdrew, and the emasculated bill that was passed never was enforced.

Lay theologians traditionally have played a large role in the intellectual base of the Orthodox Church, and the relation of church and state is a frequent topic of their voluminous writings. In 1994 the church found itself in transition, symbolized by conflict over the choice of a successor to the ailing primate, Archbishop Seraphim of Athens. At this critical point, progressive and conservative factions in the hierarchy disagreed over the church's future role: the former advocated a greater direct response to the needs of people; the latter defended the church's special status, arguing against the loss of authority that such a change might incur. In this controversy, the lay theologians played a more marginal role than they had in past policy discussions of such magnitude.

The church is divided administratively into the Monastic Church of Greece, which has seventy-eight dioceses; the semi-autonomous Church of Crete, with eight dioceses; four dioceses in the Dodecanese Islands; and the self-governing monastic community of Mt. Athos, which has constitutionally guaranteed autonomy. The church is governed by a Holy Synod consisting of all the diocesan bishops, who convene once a year under the chairmanship of the archbishop of Athens, who is automatically the primate. For day-to-day administration of the church, a supreme executive body of twelve bishops is chosen from the Holy Synod. They serve a one-year term under the primate, who serves as the synod's thirteenth member.

The Church of Crete is made up of seven metropolitans (dioceses) and the archbishopric of Crete in the capital, Heraklion. The church is administered by a synod of the seven metropolitans, presided over by the archbishop; it is under the ultimate spiritual and administrative jurisdiction of the patriarch of Constantinople (whose title retains the former name of Istanbul) rather than the primate of Greece. In 1994 the leader of the Church of Crete was Archbishop Timotheos. The four metropolitan sees of the Dodecanese Islands and the Monastic

Republic of Mt. Athos are also administratively dependent on the patriarch of Constantinople, but the constitution gives Mt. Athos special protection. Mt. Athos is administered by a council of twenty monks, one from each monastery.

Although the *millet* administrative system of the Ottoman Empire made the patriarch of Constantinople politically responsible for the entire Orthodox population in the empire, the church never had a single figure wielding the level of power and authority possessed by the pope in the Roman Catholic Church. The realm of the patriarch of Constantinople is officially called the Ecumenical Patriarchate of Constantinople, and it is the patriarch who has represented Orthodox believers in discussions with the Vatican about possible reunification since the Second Vatican Council in the early 1960s. No appreciable rapprochement is expected soon, however.

The patriarch, who is an ethnic Greek but must reside in Istanbul and be a citizen of Turkey, may not interfere in the affairs of the fifteen autocephalous churches into which Orthodox Christianity is divided. As primate of the Greek church, the archbishop of Athens differs from the pope in relying on consensus and popular approval of his decisions on administration and doctrine, rather than on the doctrine of infallibility. Orthodox doctrine, including that of the Greek branch, emphasizes the communality of its bishops and the direct preaching and performance of pastoral duties by bishops within their comparatively small dioceses. Like the other autocephalous churches, the Greek branch has its own liturgical language, but it shares with them the sacraments, doctrine, and traditions handed down from the early church as the correct, hence orthodox, practice and belief.

Orthodox practice differs from that of other Christian religions in other ways. Orthodox babies are baptized with a three-fold immersion; then they are confirmed as members of the church immediately, making them eligible to receive Holy Communion. The Anointing of the Sick is practiced not only for the dying but also for the ill because the sacrament is believed to bring healing and the forgiveness of sins, a manifestation of the Orthodox belief in the unity of body and soul.

Of the major religious festivals on the Orthodox calendar, which are called the Twelve Great Feasts, eight honor Christ and four honor the Mother of God. Easter, the Feast of Feasts, is the most joyously celebrated holiday. The four major periods of fasting are at Lent, Christmas, Assumption, and the Fast of

the Apostles. Church buildings are normally in a cross-in-square configuration with a dome and an icon-covered screen separating the sanctuary from the rest of the church. In traditional churches, worshipers stand throughout services, and seats are located only along the walls; however, many churches in Athens now provide seating throughout.

Orthodox clergy include married and celibate priests. Married men may become priests, but marriage is not permitted after ordination, and only unmarried priests may move up past the rank of priest. The majority of priests, especially outside urban areas, have primary or secondary education and a modicum of religious training. Most urban priests have at least studied theology at a seminary; priests and bishops in larger cities normally have degrees in theology from universities in Athens or Thessaloniki.

The village priest is the traditional preserver of Greek culture and traditions, and as such he usually enjoys high respect among his parishioners. In poorer parishes, peasants often went into the priesthood for economic advancement, and in many cases a married rural priest continued his secular trade after ordination. By the 1980s, however, the social prestige of the priesthood had dropped, so children received less encouragement to enter that profession. Increasingly university graduates in theology became teachers of religion in secondary schools rather than entering the priesthood. Observers listed the reasons for this trend as the lack of intellectual functions in the priesthood (priests do not regularly give sermons, and few become theologians) and the higher pay received by teachers.

The monastic tradition has always been an important part of Orthodoxy. Unlike Roman Catholic monks, who may teach and do social work, Orthodox monks devote themselves to prayer, painting icons, studying, and producing manuscripts. The ascetic life is seen as an alternative to the martyrdom that monks formerly suffered under religious persecution. The monks are divided into those living as hermits, those living in monasteries, and those living in loosely linked settlements under a single spiritual director. The best-known example of the last category is Mt. Athos, where a spiritual enclave has existed since A.D. 959. In 1990 Mt. Athos, where no female is allowed, had twenty monasteries, of which seventeen were Greek, one Bulgarian, one Russian, and one Serbian. The overall number of Greek monks declined in the 1980s, although Mt. Athos continued to attract young, better-educated monks.

The church plays a different role in Greek cities than in villages. Average church attendance in the cities, where parishes are larger and more impersonal, is lower than in villages. Overall attendance has been estimated at between 20 and 25 percent. (Weekly churchgoing is not obligatory in the Orthodox Church as it is in the Roman Catholic Church.)

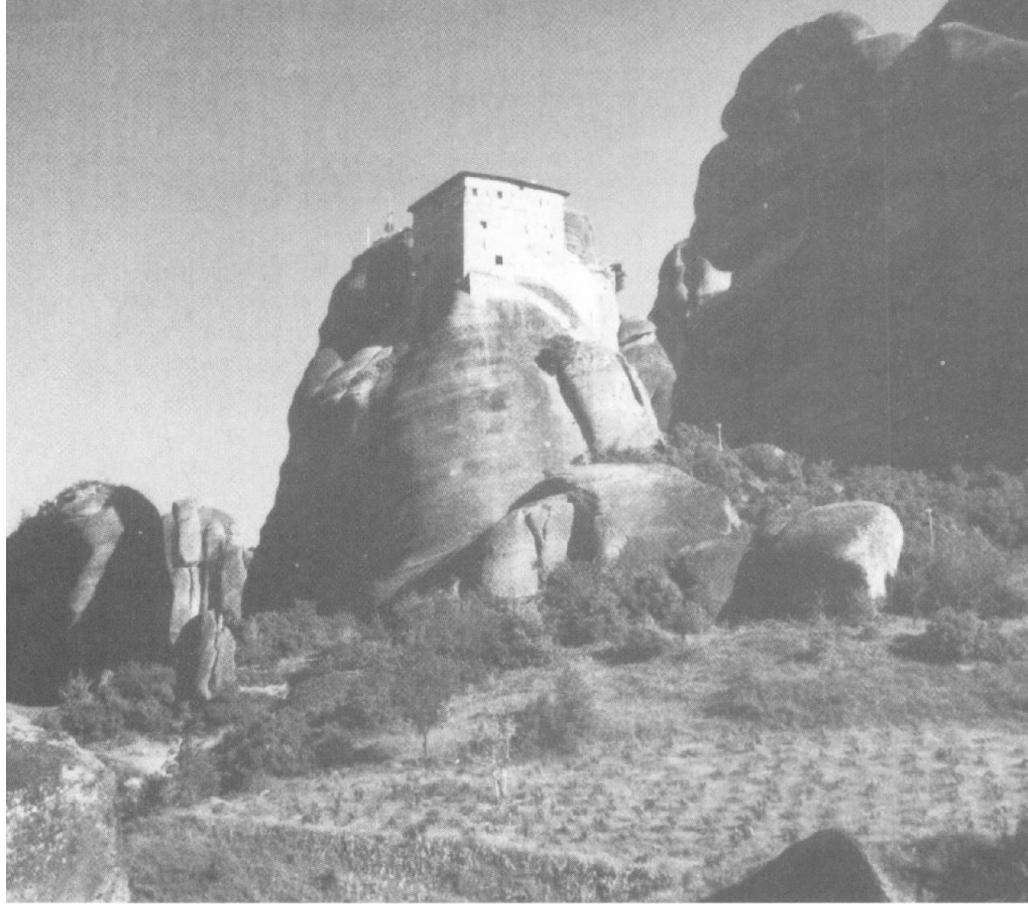
For villagers time is marked by the religious calendar, and the local church is the focal point of the community. Because the village priest is a figure familiar to all and lay committees have an input in administering church affairs, identification with village churches is closer than with urban churches. Whatever their location or pattern of public religious observance, many Greeks maintain a corner at home with icons, a special lamp, holy oil, and holy water. Many people have special relationships with saints whose intercession they ask in times of crisis. Superstition and pagan beliefs are still interwoven in religious practices in some rural areas.

Other Religions

In 1992 four Roman Catholic archdioceses were functioning in Greece, including two directly responsible to the Holy See in the Vatican, four dioceses, and the Apostolic Vicariate of Thessaloniki. An estimated 51,380 Roman Catholics lived in Greece at that time. The largest populations are descendants of Venetian settlers in the islands, where three of the four archdioceses are located. These three are the archdioceses of Rhodes; of Corfu, Zacynthus, and Cephalonia in the Ionian Sea; and of Naxos, Andros, Tinos, and Mykonos in the Aegean Sea. Two other Catholic churches, the Uniate Rite and the Armenian Rite, also have small parishes in Greece.

The main Protestant group is the Greek Evangelical Church (Reformed), which has thirty churches with an estimated total of 5,000 adherents. In the seventeenth century, Orthodoxy was influenced strongly by Calvinism, the predominant theology of the West European Reformed churches, and during that period of shifting religious politics several attempts were made to join Orthodox and Protestant churches. Today the Orthodox Church of Greece is in communion with the Church of England but not with the Roman Catholic Church.

Greek law recognizes a chief mufti as religious head of the Muslim population, which numbered about 132,000 in 1975 and included only Sunni (see Glossary) Muslims. Some 83 percent of Greece's Muslims are Turkish speaking; the other 17



*One of the Meteora monastery group, Thessaly, atop a rock pinnacle
Courtesy Sam and Sarah Stulberg*

percent are Pomaks and Gypsies. The Turkish Muslims are concentrated in Thrace and the Dodecanese Islands, where government funds maintained 205 mosques and two seminaries were functioning in the early 1980s. Alleged confiscation of Muslim religious property has been an issue of confrontation with the Greek government.

Before World War II, Greece had a Jewish population of about 75,000, with the largest concentration in Thessaloniki, where the Jews played a key role in the city's rich cultural and commercial activity. An estimated 60,000 Jews in Thessaloniki were either executed or sent to the concentration camp at Auschwitz by the Nazis during the occupation; in the early 1990s, Greece's Jewish population was estimated at about 5,000. The Central Board of the Jewish Communities of Greece, located in Athens, is the main administrative body of Judaism.

Language

Greece is linguistically homogeneous; only an estimated 2 to 3 percent of the population does not use Greek as the primary language. Because of this uniformity, the national census omitted the category of mother tongue after 1951. Modern Greek is spoken on the mainland, on most of the surrounding islands, in the Greek community of Istanbul, in most of Cyprus, and in some villages of Calabria in southern Italy. The most frequently used other languages are Turkish, Slavic Macedonian, Vlach (a Romanian dialect), Albanian, and Pomak (a Bulgarian dialect). Greek is a direct descendant of an Indo-European language spoken by civilizations in the northeastern Mediterranean for centuries before Christ.

The Greek language, in its several variations, has been used to record each step in an unbroken literary tradition stretching almost 3,000 years—a role that no other European language has been able to play (see table 4, Appendix). Modern Greek retains many of the linguistic qualities, and a high degree of unity, from its original stock. In spite of this continuity, the chief linguistic problem for Greeks has been a dichotomy between usage of the spoken language and the traditional literary language. That divergence continues, with three forms in varying degrees of use.

Koine, which means common, developed from an Attic dialect and became the spoken language of Greece at the time that Alexander the Great consolidated his empire (see *The Fire from Heaven: Alexander the Great*, ch. 1). The New Testament, the writings of the early Christian church fathers, and all of Greek literature for about ten centuries were written in this language. As Koine underwent internal modifications and influences from other languages in the Byzantine period (until 1453), scholars preserved the Greek that had been used by the classical writers beginning with Homer, in a purer form known as Attic Greek.

The dichotomy between Koine and classical Greek grew even wider when a new feeling of national identity arose in the late eighteenth century. Language became a political issue as people debated which form of Greek would be most appropriate for the independent state that they contemplated founding. In the opinion of some people, the classical roots of Attic Greek best represented the Greek nation but for others the use of Koine in official Constantinople gave that form a more recent claim to acceptance. A third group favored a modified

form of demotic Greek, the modern spoken language, because they equated nationhood with the practice of the majority of Greeks.

Modern demotic Greek is based on the version of the spoken language used in the Peloponnesus. The language's evolution in the Byzantine period is imprecisely known because its use was restricted to speech and informal documents that generally were not preserved. Elements of demotic Greek had begun appearing in some poetic works in the fourteenth century, but until almost the end of the nineteenth century only Crete and Cyprus used it for serious literature or translations from Western languages.

In this situation, the nationalist Adamantios Korais (1748–1833) suggested a compromise between Attic and demotic Greek. Therefore, a new, artificial Greek, called Katharevousa (from *katharos*, meaning pure), was devised and accepted as the official language of the newly independent Greek state. Katharevousa, which was an attempt to recover elements of classical Greek, remained the official state language until 1976. Although the new form gained in intelligibility among the emerging state elite in the nineteenth century, a renaissance of the spoken language occurred at the same time. Katharevousa had the effect of homogenizing Greek dialects, and a number of literary figures such as Alexandros Papadiamandis produced notable works of literature in Katharevousa. In 1888 Ioannis Psicharis, a scholar of the speech of the common people and the leader of the demotic movement, wrote the first serious book in demotic Greek.

Although demotic Greek had been used in primary education almost continuously since 1917, Katharevousa remained the standard language of secondary and university education until 1976, when a law replaced it with demotic, or standard modern Greek. Use of Katharevousa was enforced especially stringently during the military dictatorship of 1967–74. After 1976, however, the practices of government agencies, which previously had used Katharevousa, varied widely because some, most notably the courts, lagged behind the others in adopting demotic Greek. Thus a single government document originating from more than one agency could contain more than one language style. Although the previous mixture of styles had disappeared from newspapers in the early 1990s, Greeks still needed to know Katharevousa because of its survival in many

older books, laws, government publications, and church documents.

A number of local dialects comprise the third form of Greek in active use, although the dialects became more standardized after the introduction of Katharevousa. The greatest variation from standard Greek is shown in Tsakonian, which is spoken in the mountains of the Peloponnesus, and in the dialects closely matching those spoken by Greeks in southern Italy and Turkey. Each of the other, more common dialects is distinguished by one or more specific variations in sound and inflection patterns. Of that group, Old Athenian, the language of Athens until independence, is now used on the southern coast of Attica and on the island of Euboea. The northern dialects are spoken in the northern parts of the mainland and of Euboea and in the northern Aegean Sea. And the dialects of Crete, Cyprus, Rhodes, Chios, and other islands show another set of characteristics. Generally speaking, class and regional variations from standard Greek in pronunciation, construction, and vocabulary are less distinctive than are the differences between provincial English and French and their respective "standard" forms.

Education

The Greek culture, with its roots in classical civilization, has always placed high value on education. Especially in the post-war period, the urbanization of the Greek population has been closely connected with the desire for education, which since the nineteenth century has been considered by much of society as the key to upward social mobility and a better life.

Historical Background

The education system established shortly after Greece gained independence was the result of a combination of the French Elementary School Law of 1833, the Bavarian system of secondary education, and the pre-World War I German university system. Between Greece's independence in 1832 and the early 1990s, many elements of that system survived with very little change under a great variety of political leadership. The major factors in this stability were the obligatory use of Katharevousa, the artificial official state language; poor funding of education; centralization; and the influence of the Orthodox Church of Greece on secular schools. Until 1976

employment in business and the civil service required fluency in Katharevousa, creating a vicious cycle that sustained the language in schools spite of its distance from spoken, or demotic, Greek (see Language, this ch.).

In the twentieth century, a half-dozen reform programs failed to make a significant impact on the system's reliance on traditional subjects and teaching methods. In 1974 the collapse of military rule and the Karamanlis government's quest for membership in the EC began a wave of new legislation aimed at closing the gap between Greece and other European countries, especially in the realm of technical education. Touching all levels of Greek education at varying depths, the reforms continued through the 1970s. The 1976 reform changed the number of compulsory years in the basic schooling cycle from six to nine and revamped the technical education program. The 1977 reform made technical education more widely available, with the aim of increasing the ratio of graduates with practical rather than academic expertise. Adult education was also decentralized in 1976. In the 1970s, there was a new emphasis on mathematics, the physical sciences, analytical thinking rather than rote learning, and individualized teaching.

Meanwhile, the rapid urbanization of the 1950s through the 1970s put new strains on the schools. As the rural population decreased, schooling in many remote areas deteriorated further because normal classes could not be filled from the local population. And the urban influx at the other end of the process forced many city schools to operate double shifts—especially once attendance became compulsory in the *gymnasia* (sing., *gymnasium*), the initial stage of secondary school.

The first PASOK government, which took office in 1981, increased education's share of the national budget by almost 50 percent in its first four years. The PASOK program also centralized primary and secondary education under the Ministry of National Education and Religious Affairs (the word *national* was dropped from the ministry name after 1993), standardized curricula and teaching methods, and assigned inspectors to ensure compliance. In the 1990s, demand for modernization of the Greek education system has accelerated as membership in the EC (now the EU) and continued urbanization have placed more emphasis on reaching West European standards.

Education Administration

The education system is highly centralized, in keeping with its French and German models. The Ministry of Education and Religious Affairs approves all decisions on curricula, hiring practices, examinations, and standards. The Center for Educational Studies and Inservice Training advises the ministry on curriculum development. The country is divided into fifteen administrative regions for education, each of which is subdivided into 240 districts headed by inspectors who monitor curriculum application. Universities, all of which are financed by the state, are governed internally by a faculty senate, but all policy decisions must be ratified by the Ministry of Education and Religious Affairs.

Primary and Secondary Education

Article Sixteen of the 1975 constitution states that "the goal of education is the moral, intellectual, professional, and physical development of their [the students'] national and religious consciousness so that they become free and responsible citizens." To accomplish this goal, nine years of education, normally accomplished from ages six through fifteen, are free and compulsory. Of the compulsory years, the first six are in primary school, the next three in a *gymnasium*; an additional three secondary years (in a college-preparatory *lyceum*—pl., *lycea*) are optional but also free of charge. Students on the college-preparatory track may choose a classical or a scientific option, the latter of which is also offered by technical schools.

All state schools are coeducational, and since 1976 instruction in secondary schools has been in demotic Greek rather than the formal Katharevousa. (This change was made in primary grades in 1964.)

Preschool is also free for children between the ages of three and one-half to five and one-half years, an option taken up mainly in urban areas. Urbanization increased preschool enrollments in the 1970s and the 1980s, although fewer than half the children in that age-group attended in 1992 (see table 5, Appendix). After the reform of 1976 added the formerly optional first three years of secondary school to the compulsory program, enrollment in the first stage of secondary school increased sharply. But enrollment in the optional secondary stage dropped during that period because the reform of 1977

channeled many students out of the college preparatory line into secondary technical institutions.

Following its reorganization in 1977, the technical and vocational training system offers three options: a technical *lyceum*, a public or private secondary school, or a postsecondary center for higher technical and vocational education. The technical *lycea* offer programs in chemical, electrical, mechanical, or metallurgical engineering; business administration; architectural design; social services; and agriculture. Graduates can then attend a higher vocational training school or seek employment in their specialty. The 1977 reform also sought to raise the status of all technical schools by including nontechnical curricula and upgrading their standards for examinations and faculty credentials. Promotion to the *lyceum* is automatic for graduates of the *gymnasium*. The Panhellenic Examinations are administered in two stages, at the end of grades eleven and twelve, to determine eligibility for university enrollment.

In 1989 some 93 percent of children in the primary school age range were enrolled in school, and 87 percent of children in the secondary range were enrolled. A total of 13,229 pre-schools and primary schools had an estimated enrollment of 976,444, and 3,468 secondary schools enrolled 843,732 students. Fewer than 10 percent of primary and secondary students attend private schools. Religious schools do not exist because religious instruction is compulsory for Greek Orthodox students in public schools. In 1989 the male-to-female ratio in primary and secondary schools was fifty-two males to forty-eight females.

The University System

Article Sixteen of the Greek constitution prohibits the operation of private institutions of higher learning. The cultural rationale behind that position is that education should not be commercialized at any level, nor should its availability be determined by the workings of the marketplace. In the early 1990s, the legalization of private institutions of higher education, urged by many education experts, was blocked by a PASOK government that was averse to opening a traditional bastion of state control to privatization. In practice, this situation has meant that the full burden of supporting Greece's system of universities and higher technical schools falls on the state budget, hence ultimately on the Greek taxpayers. It also means that the supply of higher education does not respond to increased

demand except insofar as a government makes a conscious policy adjustment.

The high social status conferred by a university education causes enormous demand for the relatively small number of places in the university system. This trend sharpened in the early 1990s; in 1994 about 20,000 university slots and 20,000 technical college slots were contested among about 140,000 secondary school graduates. Although the number of university acceptances had increased after the reforms of the late 1970s and the early 1980s, the number of applicants increased at a much faster rate during that period. The economic stimulus of EU membership was a major factor in continuing that trend into the 1990s.

Because of their limited funding, Greek universities offer very few programs beyond the bachelor's degree, and faculty have little incentive to do advanced research. The ratio of faculty to students is also quite high in most universities. The highly politicized administration of Greek universities was based on a "chair" system that put groups of associated departments under the control of senior faculty and discouraged innovative teaching methods. A 1983 law was passed to democratize university administration by replacing the system with American-style departments and giving junior faculty and student representatives a voice in policy making. The restructuring was achieved despite stiff resistance from entrenched senior faculty. Another measure established a National University Council to advise the government on higher education policy and an Academy of Letters and Sciences to set university standards.

The intense demand for higher education has had several results. Students with sufficient means attend as much as two years of supplementary private schooling in specialized *frontisteria* (sing., *frontisterion*), either during their last two secondary years or after graduation, to prepare them for entrance examinations. (The quality of these expensive private schools is quite uneven; statistics show that on the average they make only a marginal difference in test results.)

Many of those students who are not accepted by a Greek university go abroad to study—the largest number to Italy and significant numbers to Britain, France, Germany, and the United States. In the mid-1980s, Greece had the highest ratio of foreign to domestic university enrollment in the world. The increasing numbers of Greek students at foreign universities



*The Athens Academy, national research center for science and the
humanities
Courtesy Press and Information Office, Embassy of Greece, Washington*

drained funds from the domestic economy, and a significant number of students established careers abroad, depriving their homeland of their expertise. In the 1990s, foreign universities began to open branches in Greece, where Greek students could begin study programs that must be completed at the parent institution abroad, increasing the "brain drain." The sale of fraudulent university degrees also was a frequent occurrence in the 1990s.

Private postsecondary institutions called "Laboratories of Liberal Studies" now offer three- and four-year programs. Graduates of these programs have been absorbed readily by private industry, despite the fact that their credentials are not the equivalent of university degrees. In 1989 some 194,419 students were enrolled in postsecondary institutions. In 1994 the

largest universities were the National and Capodistrian University of Athens, the Aristotle University of Thessaloniki, the University of Crete, the University of Thrace, the University of Ioannina, the University of Patras, the National Polytechnic University of Athens, the University of the Aegean (with facilities on several Aegean islands), and the University of Macedonia. In addition, programs in archaeology and Greek studies are offered by American, British, French, German, Italian, and Swedish colleges, primarily for visiting students of those nationalities.

Adult education programs are directed by provincial and local authorities under the general policy guidelines of the Ministry of Education and Religious Affairs. In the provinces, a central goal of adult education is to combat illiteracy, the rate of which was estimated at 6.8 percent of the population in 1990. The rate for females, however, was over four times higher than that for males, reflecting the higher dropout rate of females from secondary school. The rapid spread of primary education in the postwar years reduced Greece's adult illiteracy rate from 72 percent to 10 percent between 1951 and 1981.

Health And Welfare

The health care system of Greece has reformed and grown significantly since 1980, but resources and personnel have been distributed unevenly among geographical regions and within the medical profession. In the early 1990s, indicators for life expectancy and incidence of major diseases were as good as or better than the average for nations of Western Europe.

Health Conditions

In 1991 the infant mortality rate was estimated at about nine deaths per 1,000 live births, an improvement from the 1987 figure of eleven and from the 1960 figure of forty. New specialized facilities outside Athens and Thessaloniki were responsible for a significant improvement in neonatal care in the late 1980s and early 1990s.

In 1992 the death rate in Greece was nine per 1,000 persons. The major causes of death, in order of incidence, are heart disease, malignant tumors, cerebrovascular disorders, accidents, and respiratory diseases. Through November 1991, there were 52.8 cases of acquired immune deficiency syndrome (AIDS) reported per 1 million population, the lowest rate in Europe.

By mid-1994, some 916 cases were reported. Of that group, 11 percent contracted AIDS through medical procedures, 5 percent were identified as drug users, and 52 percent were homosexual or bisexual. In mid-1993 the Center for Control of Special Infections, the center for AIDS research in Greece, estimated that 10,000 to 15,000 people in the country were carrying the AIDS-related human immunodeficiency virus (HIV), and that the 9,000 to 13,500 new cases of AIDS expected in the following seven years would place a serious burden on the national health system.

According to a 1994 report, the proportion of drug users in the Greek population doubled in the previous decade. The most frequently used drug is marijuana. Drug use increased most significantly among women and members of the lower class. According to a 1993 survey in Thessaloniki *lycea*, about 10 percent of students between ages fifteen and seventeen had experimented with a narcotic; the most prevalent substance was marijuana. A 1991 report indicated that over half the people detained in prison were taking drugs in prison. The number of drug-related deaths in Greece remained stable in the early 1990s, between sixty-six and seventy-nine per year (see Narcotics Sales; Narcotics Abuse, ch. 5).

In the same decade, tobacco and alcohol use declined, although the proportion of the population using alcohol remained quite high, and about half the adult population, regardless of class, smoked daily. The group with the highest proportion of smokers was males between ages twenty-five and thirty-five.

The major infectious diseases are influenza, pulmonary tuberculosis (resurgent since the mid-1980s), viral and infectious hepatitis, intestinal infections, and chicken pox. Isolated cases of malaria were reported in the early 1990s.

Health Care

In the 1970s, Greece's expenditures for health care were lower than the average for Western nations, about 2.4 percent of the gross domestic product (GDP—see Glossary) for the first half of that decade. Publicly supported health facilities and private medical practices coexisted, and many doctors practiced in both areas. The distinction between public and private treatment was unclear, and members of public plans often received care in both sectors. The public system, in which the patient-to-doctor ratio was very high, generally provided poor service for





*Harbor at Patras, northwest Peloponnesus
Courtesy Sam and Sarah Stulberg*

which patients had to endure long waits. Often patients in the public system, which nominally ensured free treatment, made informal payments to doctors to receive better care. (Private health care insurance did not exist in that period.) By 1984 such payments made up an estimated 51 percent of Greece's total health expenditures.

By the late 1970s, the poor infrastructure, lack of reliable care, and necessity of informal payments aroused public dissatisfaction with and distrust of the state health system. In 1976 a government study identified major problems, including the lack of coverage for the poor, uneven geographical distribution, lack of coordination among government health agencies, and poor organization of finance and coverage in the public health insurance. The report also exposed the vast underground economy of the health system's informal payments, and it proposed three approaches for overall reform.

Opposition from the medical profession and politicians killed reform legislation in 1980. In 1983, however, the introduction of a National Health Service coincided with similar steps in other nations of southern Europe and heralded major restructuring of the legislative basis for the health care delivery system. Under the new program, the Ministry of Health, Welfare, and Social Security combines the subordinate functions of environmental health, occupational health, nutrition, and health education, formerly divided among other ministries. A Central Health Council, composed of professional experts and consumers, advises the ministry on policy matters. Devised by the Papandreou government, the plan defined the basic structure of the existing national health system.

The plan sought to place all health care under the state, to ensure equality of health care delivery, and to decentralize the health planning apparatus by establishing health councils in fifty-two designated health districts. Another goal was reducing reliance on informal direct payments for treatment. Although the plan allowed existing private practices to remain, fee restrictions forced many out of business. To establish a full-time corps of physicians in the state system, doctors were prohibited from dividing their time between public and private facilities. New training programs were established to increase the supply of nurses. A major omission in the 1983 program was reform of the health care financing and insurance system; this aspect remains essentially as it was before 1983. In the mid-1980s, gov-

ernment expenditures on health care increased to between 4.5 and 5 percent of GDP.

The conservative ND government that took power in 1990 made some changes in the laws governing the National Health Service. To improve the choices available to patients, new private hospitals and clinics again were permitted, and many restrictions on private-sector care were abolished. Physicians in the public sector again could have supplementary private practices. The last provision was reversed when Papandreou returned to power in 1993.

Full evaluation of the performance of the reform program since 1983—particularly in the areas of equity, access, and quality of care—has not been possible because Greek governments have not consistently publicized specific goals, and there is no mechanism to assess performance.

Public health services are funded by the state budget, together with mandatory contributions by employers and employees. In 1991 the official total expenditure on health care reached 5.3 percent of GDP—a low figure by Western standards—with about 70 percent of the total coming from public funds. However, another 1991 estimate, taking account of the continuing high rate of private expenditure, was 7.8 percent of GDP. The health insurance of all but 2 percent of Greek citizens comes from about 370 government insurance organizations, the services and costs of which vary greatly and none of which fully reimburses hospital costs. Many of the firms have accumulated huge deficits in the 1980s and 1990s.

In 1991 Greece had 138 public and 252 private hospitals, equipped with 35,773 and 15,500 beds, respectively. The ratio of beds to population, 5.1 to 1,000, was nearly the lowest among West European nations; according to the standards of the World Health Organization, Greece should have about 20,000 additional beds. The concentration of hospital beds in Athens, which has a surplus, has meant shortages elsewhere and requires that patients travel to Athens for treatment. In an average year in the early 1990s, about 78 percent of admissions are to public hospitals, in which the average occupancy rate is 75 percent, the average stay nine days. All public hospitals also offer outpatient and emergency care, the latter free of charge.

The number of doctors has increased dramatically since 1960, producing a surplus by 1980. The 1991 ratio of doctors to population, 3.4 per 1,000, was among the highest in Western Europe. However, most doctors work in Athens or Thessalon-

iki, creating shortages in many provinces. Anesthetists, orthopedists, and psychiatrists are especially lacking outside urban centers. Neither the 1983 nor the 1991 reform remedied this distribution problem. All of Greece has a shortage of professional nurses. In 1991 some 25,300 nurses were working in public hospitals, but only about one-third had full professional qualifications. All the major health care specialties experience shortages of nurses. Other trained health professionals, especially physical therapists, are also in short supply, as are support personnel such as occupational therapists and social workers. Personnel shortages in clinics were blamed for decreased vaccination availability since the mid-1980s. Wealthier Greeks often travel to hospitals in Britain, Germany, and Switzerland for major surgery.

Social Welfare

A very complicated system provides social welfare in Greece. The many social security organizations in existence afford a great variety of benefits and provisions. This situation resulted from haphazard planning and information input when the system was being established, from disproportionate influence by certain groups of potential beneficiaries, and from the large number of self-employed workers in the economy. By 1984 some 650 carriers were dispensing old-age, survivor, and disability pensions and health benefits through private, private supplementary, and lump-sum payment programs. The system is under the jurisdiction of the Ministry of Health, Welfare, and Social Security (covering work injuries, sickness, medical benefits, and pensions) and the Ministry of Labor (providing unemployment and family allowances). The legislation prescribing benefits for Greek citizens is the Social Security Law of 1981.

The system is financed primarily by contributions made by employers and through the payroll deductions of employees. Government subsidies also support the coverage of certain types of workers. In 1992 employer and employee social security contributions were virtually equal; the former totaled 13.8 percent of national tax revenue, the latter 14.2 percent.

Membership in pension and health coverage programs is primarily determined by occupational group and industry. Despite the large total number of carriers, three large systems cover about 85 percent of non-civil service workers. The most extensive carrier is the Social Insurance Administration (Idryma Kinonikon Asfaliseon—IKA); the other two major pro-

grams are the Agricultural Insurance Organization (Organismos Georgikon Asfaliseon—OGA) and the Tradesmen's and Craftsmen's Fund for the Self-Employed (Tameio Emporikon Viomihanikon Epihiriseon—TEVE). Workers not in the civil service or covered by one of the smaller companies are required to enroll in an IKA program. In general, IKA covers blue- and white-collar workers; the OGA, which is funded entirely by taxes, covers the rural population; and the TEVE covers small business and merchants. A government-operated fund covers civil servants (about 5 percent of the work force) and military personnel, and small funds cover specific professions such as the law, banks, and public utilities.

The IKA programs, the most comprehensive of the three, provide old-age, disability, maternity, funeral, sickness, medical, and workers' compensation benefits. Remaining coverage types—unemployment, military service, and family allowances—are provided by the Manpower Employment Organization. Most funds provide cash benefits for lost income because of illness or accident, maternity, spa treatment, and death and funeral expenses.

In the 1980s, the amount of employer and employee contributions varied greatly among the major funds, although the funds provided similar coverage; legislation passed in 1992 aimed to equalize contributions among the occupational groups. The workers' contribution level of IKA was raised, to 7.5 percent of salaries, and between 1993 and 1996 all other funds covering salaried workers will be required to match that level. Contributions to funds for self-employed professionals generally remained at a lower level than those of salaried workers. Other reforms have aimed at covering unprotected workers, ensuring equal coverage of the sexes, and providing for the increasing number of retirees (see *Population Characteristics*, this ch.). An Employee Auxiliary Insurance Fund has been established to provide coverage to groups such as miners and municipal workers previously outside the system.

The problematic development of Greece's social welfare system reflects the larger social context. Elements of traditional prescriptions for social interaction are still present as Greece moves closer to the influential West. In education, health care, environmental protection, women's rights, and even religion, the forces of reform continue to erode old familiar institutions. The main dilemma is how to find a recipe for modernization that will honor the best traditions of the past.

* * *

A number of valuable studies describe Greek social life, especially in its rural aspect. John K. Campbell's *Honour, Family, and Patronage* and Juliet Du Boulay's *Portrait of a Greek Mountain Village* are among the best. *The Metamorphosis of Greece since World War II* by William H. McNeill shows all of Greek society during an important period of change. Two chapters of *Urban Life in Mediterranean Europe: Anthropological Perspectives*, edited by Michael Kenney and David I. Kertzer, study the development of Greece's urban society. Two articles in *Greece in the 1980s*, edited by Richard Clogg, describe the Orthodox Church of Greece and the Greek education system. T.R.B. Dicks's *The Greeks: How They Live and Work* surveys all aspects of Greek society and its background.

The role of women and the Greek education system are described, respectively, in "Gender and Social Change in Greece: The Role of Women" by Adamantia Pollis and in "Education in Socialist Greece: Between Modernization and Democratization," by Constantine Tsoucalas and Roy Panagiotopoulou, both in *The Greek Socialist Experiment*, edited by Theodore C. Kariotis. Two publications of the Organisation for Economic Co-operation and Development (OECD), the annual *Trends in International Migration* and chapter 11 of *The Reform of Health Care Systems: A Review of Seventeen OECD Countries*, provide current information on health and demographic trends. Environmental conditions and policies are described in two recent journal articles: "The Politics of Greek Environmental Policy" by Dimitris Stevis (in *Policy Studies Journal*), and "The State of the Greek Environment in Recent Years" by Basil D. Katsoulis and John M. Tsangaris, in *Ambio*. (For further information and complete citations, see Bibliography.)

Chapter 3. The Economy



Highway bridge over Alfios River, Peloponnesus

GREECE IS A SMALL COUNTRY with not many more than 10 million people. Its territory, which is dominated by large mountain ranges and an extensive coastline, offers the natural resources on which the traditional economic activities of agriculture, herding, and fishing were based. In the era after World War II, the Greek economy underwent significant transformation. Manufacturing and services emerged as major areas of economic activity that in the mid-1990s combined to account for 85 percent of the gross national product (GNP—see Glossary). The transformation is also reflected in the composition of the Greek population. Whereas in 1940 over 50 percent of the population lived and worked in agricultural areas, only about 25 percent of the population remained rural in the mid-1990s.

Per capita income in Greece has grown substantially in the postwar decades. From about US\$500 in 1960, it had increased to about US\$6,500 in 1992. By international standards, Greece can be characterized as a country of medium-level development. Its per capita income places Greece above only Mexico and Turkey among the member nations of the Organisation for Economic Co-operation and Development (OECD). On the other hand, Greece's average per capita income exceeds that of most non-OECD countries in the world, including the East European and Central European countries emerging from centrally planned economic systems.

Domestic economic growth in Greece was impressive in the early postwar period, but growth had virtually stopped by the early 1990s. Although the present economy shows many areas of dynamism and profitable investment opportunities, the overall condition is one of stagnation. In recent years, the public sector of the Greek economy has posed particularly difficult and chronic threats to economic stability by generating high deficits and accumulating public debt. These conditions have created macroeconomic imbalances and have forced the implementation of stabilization policies by successive governments. Of necessity, stabilization policies have involved restrictive monetary practices, income restraints, and increased tax burdens—all measures that tend to stifle economic growth. These actions have helped to reduce price inflation significantly, supplying at least one condition for future economic

evolution, although the rate of inflation in 1994 remained above levels usually regarded as acceptable by developed countries.

Certain areas of Greece's industry and service sectors are making impressive progress that bodes well for the long-term future. Especially encouraging is growth in food products, textiles, light telecommunications equipment, banking, and business services. Some Greek exports have shown significant growth in the early to mid-1990s. Greek financial markets have gained strength, and private economic initiatives in neighboring Balkan countries undergoing transition to a market economy have flourished. In the mid-1990s, Greek investments enjoyed a high rank among all foreign investments in Bulgaria, Romania, and Albania.

Its small size and its geographic location have always made Greece an economically extroverted country heavily dependent on international economic relations. Since the early 1960s, Greece's major economic alliance has been with the European Community (EC—see Glossary), which has been known as the European Union (EU—see Glossary) since late 1993. Since gaining full membership in the EC in 1981, Greece has practiced free trade with its European partners, adjusting to community requirements for the free movement of capital and labor among member countries. As one of the less-developed members, Greece also has received substantial European grants for agricultural support, various infrastructural investments, and training programs. Greece has participated in EC/EU deliberations on the key issues of adding new member countries and closer integration of participating economies.

Public policy has required that substantial efforts be made in two areas in the mid-1990s. First, heavily regulated sectors such as transportation and telecommunications are being liberalized in order to streamline operation of the market economy and allocation of resources in Greece. Second, the government actively seeks the improvement and extension of economic and social infrastructures in transport, communications, education, and social services. These efforts will be greatly boosted by the Second Community Support Framework (the so-called Delors Package Number Two), a program adopted by the EC in 1993 to distribute its structural funds among member nations whose per capita income is below 75 percent of the community's average. When the program began, those countries were Greece, Ireland, Portugal, and Spain. Under the package, between

1994 and 1999 Greece is to receive US\$25 billion to US\$30 billion for infrastructure, training, and other initiatives. The utilization of these funds for new domestic capital formation offers the hope of renewing economic growth in Greece.

The Economic Development of Modern Greece

Only in the 1950s did Greece begin its transformation from a largely agricultural economy to one based primarily on services and industry. Progress was slowed, however, by the lack of a domestic entrepreneurial class willing to invest in industry. Government economic policy therefore relied heavily on foreign investment, state intervention played a large role in economic planning, and tourism became a vital part of postwar expansion. After almost three decades of steady growth, the Greek economy began to stagnate in 1979, beginning an era of struggle to resume growth while avoiding high inflation.

The Nineteenth Century

During most of the nineteenth century, the most important changes in the Greek economy were in the agricultural sector. The introduction and extensive cultivation of cash crops for export was the most significant innovation in the more fertile regions of the country. The earliest such crop was currants, which were introduced mainly in the Peloponnesus. Much later, tobacco was introduced as an export crop in more northern areas of the country. In the less fertile areas, subsistence farming predominated well into the second half of the twentieth century.

The profitability of export crops depended largely on Greece's merchant marine fleet, which had developed during the last decades of Ottoman rule around 1800. In that period, international treaties and political conditions were conducive to increased commercial movement in the eastern Mediterranean. After independence was achieved in 1832, domestic commercial growth was a further stimulus to expansion of the merchant fleet. Expanding trade in Greek agricultural products provided the impetus for development of the first Greek financial networks and a variety of domestic economic infrastructures.

The establishment of the National Bank of Greece in 1841 was an important development in the country's financial base. Endowed with the power to issue bank notes and able to deal in

both domestic and foreign currency, the National Bank fostered the gradual unification of a national market, by making a uniform national currency available from its branches all over the country. This development greatly facilitated internal and external trade, domestic saving, availability of credit, and inflows of capital from abroad. By the 1870s, the National Bank was emerging as the country's major economic institutional force.

Other parts of Greece's economic infrastructure did not appear until the latter part of the nineteenth century, predominantly during the several terms of Prime Minister Kharilaos Trikoupis. In the 1880s and 1890s, paved roads, the first network of railroad lines, the opening of the Corinth Canal, and the construction or rehabilitation of several seaports contributed greatly to the development of an internal market in Greece, as well as to the movement of Greek products to foreign markets. The first manufacturing plants also appeared in Greece during Trikoupis's tenure, in conjunction with the large infrastructural projects of the period. Before 1900, however, industrial growth was hindered by economic crises, the instability of the agricultural export economy, and government debt.

From 1909 to World War II

Eleutherios Venizelos, who became prime minister in 1910, thoroughly revamped Greece's economic and social institutions, although his modernization programs were interrupted by a series of wars between 1912 and 1922. The 1923 Treaty of Lausanne provided for the exchange of Greek and Turkish minorities, dramatically enlarging Greece's population. The institutional reforms of Venizelos, the new skills brought to Greece by refugees from Asia Minor, and increased domestic demand promoted another period of growth and industrialization. At the same time, refugee resettlement in Macedonia and Thrace introduced more productive agricultural practices (see *The Interwar Struggles, 1922–36*, ch. 1).

The last Venizelos administration (1928–32) was another era of modernization in Greece's economic institutions. Financial reform included establishment of the Agricultural Bank of Greece and the Bank of Greece, which replaced the National Bank as the bank of currency issue. These institutional changes aimed mainly at improving resource allocation and national policy making; however, they did not make the benefits of eco-



*Site of Roman agora, center of economic and social activity, Athens
Courtesy Bernice Huffman Collection, Library of Congress, Washington*

conomic growth available to wider segments of the population. Widespread poverty persisted despite growth.

In 1931 the onset of the Great Depression ended Greece's interwar growth, which had not lasted long enough to bring about a permanent improvement in Greek economic structures. Greece had continued to depend to a large extent on agricultural exports and emigrant remittances for its foreign exchange. The decline of international trade and incomes in the 1930s hurt the Greek economy by reducing its foreign-exchange earnings. A new period of economic stagnation, together with persistent urban poverty, stimulated sharp class conflicts, which fostered the growth of Greek communist militancy, widespread labor unrest, and finally the imposition of a fascist dictatorship in 1936.

The Nazi occupation and plunder of Greece between 1941 and 1944 devastated Greece's economy and suspended the foreign trade and agricultural output on which it depended heavily. The Nazis also forced the Greek treasury to pay huge amounts of "occupation expenses," which caused hyperinflation when new money was printed to meet the obligation. The stratification of wealth caused by hyperinflation and black mar-

kets during the occupation seriously hindered postwar economic development.

Postwar Recovery

The postwar reconstruction efforts of the Marshall Plan (formally the European Recovery Program) and new economic cooperation in Western Europe provided no immediate benefit to Greece, which underwent a bloody civil war from 1946 until 1949. A new round of destruction of wealth, inflation, and economic instability lasted until the early 1950s. Significant amounts of United States aid went to Greece during this period under the Truman Doctrine and later under the Marshall Plan, establishing a long pattern of dependency on Western benefactors. Total United States aid to Greece from 1947 to 1977 amounted to US\$5 billion. In the early postwar years, most of the aid was in the form of grants for outright military assistance or given in connection with military requirements and war-related economic needs.

The Civil War ended in 1949, but economic stabilization was achieved only in 1953. The starting point of postwar recovery was a package of domestic economic measures passed in 1953, which included a 50 percent currency devaluation, laws for the protection of foreign investment, and banking regulations to control inflation and speculation. Extensive public investments in infrastructure (roads, seaports, airports, and electric and telecommunications networks) were undertaken under the leadership of Konstantinos Karamanlis, first as minister of public works (1952–55) and then in his first term as prime minister (1955–63). The 1953 program began twenty years in which Greece would achieve high growth rates, effective industrialization, export expansion, urban growth, and significant—although uneven—prosperity for its population.

The period from the late 1950s to the late 1960s has been characterized as the era of the "Greek economic miracle," during which the gross domestic product (GDP—see Glossary) grew at the fastest rate in Western Europe, averaging 7.6 percent annually throughout the 1960s. Industrial production grew at an average annual rate of 10 percent over the same period, exceeded in Western Europe only by Spain's performance. In the 1960s, manufacturing exports surpassed agricultural exports for the first time in Greece's history, partly because of large foreign investment in industry that boosted capital-intensive manufacturing activities. The most significant

projects in this category were a refinery and petrochemical complex of Standard Oil of America and an aluminum complex built by the French company, Pechiney Ugine Kuhlmann. Other development in shipyards, chemical plants, pharmaceuticals, metallurgy, and electrical machinery was also undertaken, associating the largest investments in Greek manufacturing with foreign ownership.

Economic growth, industrialization, and urbanization caused social tensions in the 1960s associated with the inequitable distribution of new wealth. Neither the centrist government of Georgios Papandreou (1964–65) nor the military junta that took power in 1967 was able to ameliorate conditions. The military dictatorship simply favored specific economic interests, notably large tourist enterprises, urban real estate and construction, and shipowners. The basic weaknesses of the Greek economy, including social inequities and the lack of competitiveness in the country's new manufacturing sector, remained untreated. They would resurface in acute form with the world economic crisis of the early 1970s.

The first energy crisis and the international monetary turmoil following the Arab-Israeli War of 1973 had an adverse effect. When exports could not cover the higher cost of foreign oil, a large deficit resulted in the Greek balance of payments, and the domestic economy suffered serious inflationary pressures. Such economic problems increased popular resistance to the dictatorship and contributed to its collapse in mid-1974.

Economic Policy after 1974

The end of the period of growth became obvious after the reestablishment of democracy in Greece in 1974. For both internal and external reasons, the democratic governments that followed the junta were unable to restore growth. Thus, for example, the average annual growth rates of the GDP, which had been 7.6 percent in 1961–70, dropped to 4.7 percent in 1971–80 and then to 1.4 percent in 1981–90. Clearly the "Greek economic miracle" had come to an end.

Greece's return to its association with the EC after ties had been severed during the dictatorship was a major institutional event in the restoration of democracy. In 1981 Greece became a full member of the organization. It was the tenth member in the economic alliance of European nations and the first of the Mediterranean "new democracies" to join the community (Spain and Portugal followed in 1985). Upon achieving mem-

bership, Greece began a gradual adjustment of its legislation and elimination of its protectionist policies, leading eventually to full liberalization of trade and the movement of capital and labor. Greek trade was greatly reoriented as a result. In 1980 about 48 percent of Greek exports and 40 percent of imports were destined to, or originated from, EC countries. By 1991 these percentages had risen to 64 and 62 percent, respectively.

The democratic governments of the 1970s and 1980s faced the accumulated internal problems of economic institutions and the social modernization that had been either neglected or suppressed by the junta. On the agenda of social modernization were labor legislation, social insurance, education reform, and the provision of health care—elements without which the growth of a modern economy would be impossible. On the economic front, postdictatorship governments had to tackle the deficit-ridden balance of payments, the damaged competitiveness of Greek industry caused by high energy costs and escalating pressures for higher wages, and a rising inflation rate. The policy requirements for the social and economic problems were frequently contradictory. Modernization of social protection required new public spending and generally expansionary policies, but economic adjustment required income and spending restraints. The internationalization of the Greek economy after 1981 made economic adjustment more urgent.

In response to this situation, the governments of the 1970s and 1980s generally vacillated between emphasizing social modernization and economic adjustment. In the 1970s, the vacillation took the form of a variety of measures for supporting troubled firms in the private sector, taken simultaneously with attempts to stabilize the economy.

The economic crisis of the 1970s had been felt initially by the private sector, where many manufacturing firms joined the ranks of the so-called problematic enterprises that faced failing markets, financial default, and bankruptcy in the decades that followed. Entry into the EC made conditions for Greek industry even harder because the most immediate effect of Greek accession was a removal of protection for domestic industry and a large increase in import penetration, mainly by foreign manufactured goods. For example, throughout the period between 1983 and 1991, about 25 percent of Greece's manufactured goods were exported, while the share of imports in

domestic consumption of manufactured products increased from 30 percent to 57 percent.

The crisis conditions of the 1970s eventually penetrated the public sector under both conservative and socialist governments. In the 1980s, the socialist administrations of Papandreou sought to bolster areas of the economy that lagged farthest behind Greece's EC partners by extending welfare protection in a variety of forms. But this policy was not supported by tax reforms that would generate new revenue for public spending, so the deficits and public borrowing that had begun in the late 1970s intensified in the 1980s. A "roller coaster" cycle of pre-election largesse and post-election stringency in public spending has been apparent under both conservative and socialist governments in the 1980s and 1990s. As a proportion of total public expenditure, the budget deficit went from 32 percent in 1981 to 44 percent in 1990.

The crisis in the public sector, with high budget deficits, public borrowing, and an erosion of tax compliance in combination with continuing economic stagnation, created serious economic imbalances that persist in the mid-1990s. Price inflation remained at the high average annual rate of 18 percent throughout the 1980s and the early 1990s, declining to 12 percent by the end of 1993 and to 10.6 percent by the end of 1994. Stabilization policies, briefly implemented in 1986–87 under socialist minister of national economy Konstantinos Simitis, initially reduced inflation and public deficits, but the Panhellenic Socialist Movement (Panhellinion Socialistiko Kinima—PASOK) government continued its pattern of reversals by changing back the policies in 1988 in preparation for a national election.

In 1990–93 the conservative government of Konstantinos Mitsotakis and his National Democracy (Nea Demokratia—ND) party undertook harsher, more persistent stabilization efforts accompanied by a privatization program for state-owned firms and a tax reduction program. Conservative policies were only partially successful, however, because they had the side effect of depressing the economy. Thus, tax revenues failed to increase at the expected rate, pressures for increased public spending remained high as unemployment and social problems worsened, and business prospects did not brighten enough to boost private demand for the state-owned enterprises put on sale in the privatization program.

The PASOK government of Andreas Papandreu, back in power in late 1993, continued to implement stabilization policies, reorienting them by directing its tax reform policy to enforce compliance by undertaxed strata of society, by following a more pragmatic course on privatization to maximize revenue from sales, and by avoiding new indirect taxes that would rekindle inflation. The initial impact of this approach on inflation was positive, dropping the annual rate to a twenty-year low of 10.6 percent. However, the problems of unemployment and industrial decline clearly persist in the mid-1990s.

Despite the problems of the public sector, the Greek economy contains elements of dynamism. Firms in foods, textiles, telecommunications equipment, banking, and business services have made impressive progress in the early 1990s. Greek financial markets have gained volume and liquidity. Private economic initiatives in neighboring Balkan countries in transition to market economies have flourished, and Greek investments rank among the largest in Bulgaria, Romania, and Albania.

The Structure of the Economy

The basic structural features of the Greek economy have been changing since the mid-1970s. Although statistical information is not always up to date, discernible trends indicate the essential movements. The composition of national income and the changing role of international trade, the structure of employment, the operation of Greece's underground economy, and the size and relative weight of the public sector are the main areas in which change is occurring in Greek economic structures.

The Composition of National Income

In 1992 the share of the GDP generated in the so-called primary sector, including agriculture, animal husbandry, and fishing, was about 12 percent. At the same time, the secondary sector—mining, manufacturing, energy, and construction—yielded 26 percent of GDP, and the share of the tertiary sector, including trade, finance, transport, health, and education, was 59 percent. The high share of services is characteristic of the entire postwar period. The relative shares of the three sectors were, respectively, about 18 percent, 31 percent, and 50 percent in 1970.

The service sector long has been considered a residual sector of activity, featuring activities with high underemployment and masked unemployment that absorb resources released by other sectors. Many experts consider this traditional view wrong in the mid-1990s because modern services are having a palpable impact on the Greek economy and on everyday life. In any case, the quantitative as well as the relative weight of the service sector has been growing in recent years. After the service share of GDP remained static in the 1970s, the 1980s showed a distinct trend toward increased participation by services. This trend is consistent with the weakening of industry, which normally releases resources into the service sector. However, it is also consistent with a rise in the standard of living, which normally increases the demand for services. Both factors likely contributed to the rising share of services after 1980. Living standards improved over that period, but domestic manufacturing also suffered a serious loss of its market share to international competition.

Another important recent trend relates to the allocation of national income to investment within the country. The formation of fixed capital as a proportion of GDP has declined steadily in Greece from an all-time high of 27 percent to about 20 percent in recent years. This trend is connected with the slowdown in growth rates and in manufacturing activity; it is also probably related to the redistribution of resources to services, because most demand for fixed investment arises either in the primary or secondary sectors of an economy.

Despite the investment slowdown, the ratio of private savings to GDP has not exhibited any significant change, remaining at about 20 percent. On the other hand, total national saving (including private and public saving), has dropped because Greek public saving has been negative in recent years (see *The Public Sector and Taxation*, this ch.). High private saving is desirable for the economy because it enables the financing of public sector deficits as well as domestic investment.

The Role of Foreign Trade

It is generally expected that foreign trade plays a large role in a small open economy such as exists in Greece. A measure of the relative weight of trade is the ratio of the sum of exports and imports to the country's GDP. In Greece this ratio grew until 1985, when it reached almost 50 percent, but it declined from that point to about 40 percent in 1992. The decline has

been evenly divided between exports and imports. The export decline verifies the weakening competitive position of Greek products in the world market, and especially in the market of the EC/EU. The import decline is simply the outcome of domestic demand being weakened by the austerity policies of the early 1990s. Nevertheless, the Greek economy remains highly internationalized and quite sensitive to developments in foreign trade, as compared with larger economies such as that of the United States, in which the sum of exports and imports is less than 20 percent of GDP.

The high degree of internationalization in the Greek economy is demonstrated by the fact that, besides exports and imports of goods, the nation's foreign economic relations include a large component of so-called invisibles, such as receipts from tourism, international merchant shipping, and emigrant remittances. Generally speaking, these receipts can be considered as revenues from sales of services to foreigners inside or outside the country. In recent years, invisibles have amounted to between 22 percent and 25 percent of GDP. Thus, the degree of internationalization of the Greek economy is even higher than is suggested by trade figures alone.

The Structure of Employment

The structure of employment in Greece corresponds only roughly to the structure of the national product. According to the most recent labor survey (1991), some 22 percent of the employed population worked in agriculture, 28 percent in industry, and 50 percent in services. Comparison with the corresponding percentages for the participation of the three sectors in the national product indicates that agriculture is more labor-intensive than the other two sectors, but productivity is lower in agriculture and there is substantial underemployment in the agricultural labor force.

An analysis of the labor force by sex shows that working men are overrepresented in industry (33 percent of total male employment is in the secondary sector), whereas working women are overrepresented in agriculture and in services (33 percent and 50 percent of female employment is in the primary and tertiary sectors, respectively). In terms of total employment and unemployment, in 1991 approximately 2.3 million men and 1.6 million women were working. In the same year, 109,000 men and 188,000 women were reported as unemployed. Thus, within the nationwide unemployment rate of 7.0

percent, the female population experienced a higher unemployment rate of 11.7 percent. In 1989 (the last year for which such figures were available), the rate of unemployment among persons of both sexes under age thirty was 18.8 percent. Estimates indicate that the unemployment rate in Greece hovered around 9.8 percent in 1993. Experts assume that women and younger workers in general continue to show relatively higher unemployment rates than the national average. Pay rates also differ between men and women. In 1990 among salaried employees in manufacturing and trade, females received compensation averaging 80 percent of compensation given males for comparable work.

An important characteristic of the Greek employment structure is the division of the working population into groups of occupational status. Thus, in 1989 about 5.6 percent of the working population were employers, and 51.4 percent were wage and salary earners. The balance was made up of 28.7 percent who were self-employed and 14.3 percent who were unpaid family members occupied in a family business. The relatively high percentages in the last two categories are typical of a society featuring many very small business firms run on a family basis together with a large service sector.

The large number of individuals employed in seasonal or nonpermanent agricultural and service positions means that it is quite common for people to work at more than one job. Thus, for example, a farmer or an urban craftsman may also provide tourist services in the summer. Double occupations are even encountered among public-sector employees who take second jobs in the evening. Besides creating a certain fluidity in a worker's social role, this tendency complicates the measurement of productivity and unemployment in various sectors of the economy.

Labor Unions

The large component of self-employed persons in the labor force and the predominance of small family businesses have impeded the growth of effective labor unions in Greece. Nevertheless, the Greek labor movement grew along with the process of industrialization, and the movement made its presence felt in the interwar and the postwar periods. Labor organization is centered on craft and trade unions limited to a single community. These local units are usually affiliated with national federations in both given industries and in geographic labor centers.

The secondary organizations combine in turn to form the national labor body, the General Confederation of Greek Workers (Geniki Synomospondia Ergaton Ellados—GSEE). The GSEE's present membership is about 600,000 persons.

The GSEE has long suffered from political interference by parties in power and in opposition. Although the socialist governments of the 1980s took some steps to strengthen the independence of unions, they also continued the tradition of political interference in practice. The strength of the trade unions in the mid-1990s is mostly in employee federations in banking and in public utilities companies, state-owned enterprises, teachers' associations, and associations of transportation and other municipal workers. In the early 1990s, the GSEE played the important role of negotiating national labor agreements with employers' associations (and the government on occasion), establishing the framework for pay increases and other labor benefits for the country as a whole. Thus, in its capacity as national labor representative, the GSEE has taken an important role in issues affecting the management of the economy and the development of human resources as a part of the economy's endowment.

The Underground Economy

Multiple occupations are linked to the growth of an underground economy in Greece. As in many other national economies since the 1970s, Greece's underground economy includes a variety of economic activities outside the reporting and taxation systems of national government. In a country such as Greece, with a large service sector and a multitude of very small enterprises, the proliferation of unreported, untaxed, and unregulated activities is a natural occurrence. Estimates of the Greek underground economy have ranged from 35 to 50 percent of the officially reported economy, meaning that actual incomes and employment exceed official figures by the same percentages. Avoidance of taxes and social security payments has cut the costs of small enterprises and entrepreneurs, whose survival is threatened by economic crisis and international competition. Although the underground economy provides income and employment to otherwise unemployed labor, its operation obstructs the modernization of the country's fiscal system and the development of internationally competitive production capabilities in the economy.

The Public Sector and Taxation

The shape of the Greek public sector was already established in the nineteenth century. From the inception of the modern Greek state, provision of public-sector jobs was a preferred way for politicians to grant favors (see *The Civil Service*, ch. 4). Public-sector jobs also provided opportunities for upward mobility in an economy whose development potential was unrealized until a very late stage. Beginning about 1974, several factors have contributed to growth of the public sector. Greek governments responded to the economic crisis of the 1970s with a variety of policies that increased government spending in order to protect the public from the consequences of the economic downturn. This response was intensified by the need for democratic consolidation when the military dictatorship ended in 1974. It was enhanced further in 1981 when the first socialist government in Greek history brought with it a programmatic goal to modernize the Greek system of social protection.

Beginning with the socialist administrations of the 1980s, public-sector growth has been the subject of intense political debate. The center of that debate is the appropriate percentage of GDP that public expenditure should occupy. After remaining at about 25 percent of GDP in the late 1960s and early 1970s, public expenditure began climbing after the mid-1970s. By 1980 it had reached 30 percent; then by 1985 it exceeded 40 percent. For the years 1990–93, the figure remained steady between 42 and 45 percent of GDP (see table 6, Appendix).

The basic components of this accelerating outlay are primary expenditures such as the purchase of goods and services, pensions, subsidies, and interest payments on the public debt. Because of the accumulation of public debt on large deficits that have persisted since the late 1970s, between 1980 and 1992 interest expenses grew quite rapidly from less than 2 percent of GDP in 1980 to 11.4 percent of GDP in 1992. On the other hand, since the late 1980s primary expenditures have stabilized at between 35 and 38 percent of GDP. Thus, about half of apparent growth in the public sector, as compared with GDP, comes from the Greek state's bulging interest expenses. About 75 percent of this interest expense is service of domestic debt, held by Greek residents and denominated in drachmas (for value of the drachma—see Glossary). Thus, this expenditure is

a transfer payment within the country, from taxpayers to the creditors of the state, through the mediation of the state.

Primary expenditures have risen mainly in the category of social transfer payments such as pensions, welfare payments, subsidies to social security organizations, and supports to failing firms that were justified in the name of maintaining employment and labor income.

On the other side of the ledger, public revenues have grown significantly over the last two decades. From about 22 percent of GDP in 1970, they had risen to almost 33 percent by 1992. That year, according to the National Statistical Service, primary expenditures were nearly 36 percent of GDP, so had there been no public debt, the Greek budget would have been close to balance.

The problem of enhancing public revenues is paramount for Greece's fiscal future. Contrary to the practice in most European countries, Greek tax revenues come primarily from indirect taxation (sales, excise, and, mainly, value-added taxes), and only secondarily from direct taxation (income, corporate profit, and property taxes). In 1992 corporate and individual income taxes contributed about 17 percent of total tax revenues, social security contributions added another 28 percent, and indirect taxes on goods and services amounted to 45.5 percent of tax income. The largest component of indirect tax revenues is the value-added tax (VAT—see glossary), which was instituted in 1987 to comply with the tax harmonization policies of the EC.

The low yield of direct taxation in Greece is not the outcome of low tax rates. Rather, it is due to low income tax compliance. Tax enforcement is problematic in a country with a high percentage of self-employed workers and a large service sector. For many years, salaried employees and pensioners have paid the largest share of direct taxes, when in fact these categories of the working population are not the wealthiest or the most able to shoulder the tax burden. In addition, Greek tax collection is riddled with inefficiency, lax enforcement, and even corruption—factors that have survived numerous reform efforts.

A new set of tax reforms was passed in 1994 to broaden the tax base and make the tax burden more equitable. The top income tax rate was cut to encourage those with higher incomes to participate. A "profession tax" now sets a minimum taxable income for every member in prescribed levels of each

profession, and tax inspectors can examine personal financial records to establish tax liability.

Aside from the government and its agencies, the Greek public sector includes a variety of enterprises in various sectors of the economy. Some of these concerns enjoy monopoly status, such as the Public Power Corporation (Dimosia Epicheirisi Iektρισμου—DEI), the Greek Telecommunications Organization (Organismos Tilepikoinonion Ellados—OTE), and Olympic Airways, which alone operates domestic air travel. Other public-sector enterprises, most notably national banks and manufacturing companies owned by them, coexist with private firms in their field of activity.

The growth period of the public sector also included extension of public ownership to troubled private firms, usually through state-controlled banks. In the late 1980s, the government began the process of privatizing or liquidating these firms. In the early 1990s, minority blocks of shares were issued to privatize in part two large public utilities, DEI and OTE—although the cancellation of an open bidding process on the shares of the latter in 1994 signaled a possible reversal of such privatization plans. In addition, the monopoly status of several public enterprises is undergoing gradual change. Competition in domestic air travel, alternative forms of energy generation by private agents, and mobile telephone communications are examples of activities in which private entry has already begun or is being considered in the mid-1990s.

Virtually all current observers of the Greek economy agree that the public sector must be streamlined if the country is to experience a new round of development. Because many of the mid-1990s problems of the public sector result from earlier crises in private companies that were inherited by the state, the prescription for long-term improvement includes private-sector assistance in the cleanup of public-sector problems. This requirement means that the Greek political agenda will continue to include effective tax reform and an end to subsidies for many types of private enterprise.

Wages, Prices, and Inflation

As Greece entered the 1990s and the requirements of EC membership grew stricter, inflation remained a central problem for economic policy makers. In 1990 the annual inflation rate was 20 percent; after four years of austerity policies, the rate had declined to 10.6 percent at the end of 1994. At that

point, experts believed that private-sector confidence in the government's anti-inflation policies had been boosted, making future reductions in the inflation rate likely.

The implementation of the EU's convergence program in the mid-1990s will mean strong anti-inflationary efforts as well as harsh fiscal adjustment to reduce government deficits (see *International Economic Policy in the 1990s*, this ch.). Minimizing the differential of inflation rates between Greece and the other EU countries is crucial in establishing a stable nominal exchange rate for the drachma and participation for the drachma in the EU's Exchange Rate Mechanism (ERM), the currency stabilization mechanism in which all EU member countries except Greece participated in 1994. Greek foreign-exchange policy has involved moderate and gradual devaluations timed to dampen rather than accelerate inflation. Thus, on average the Greek currency has been devalued in the last few years by less than the differential inflation between Greece and its main trading partners. Another crucial factor in inflation policy has been balancing interest rates at a level high enough to restrict the flow of money but low enough to encourage borrowing and investment. In spite of government monetary restrictions, in late 1994 an official EU evaluation projected a 1995 inflation rate of 9.5 percent for Greece, which the EU described as an unsatisfactory reduction from the overall 1994 level of 11.1 percent.

The government traditionally had fixed prices and profit margins, especially under the influence of organized commercial lobbies. Between 1988 and 1992, the average prices of consumer goods rose by between 69 percent for durable goods and 118 percent for clothing (see table 7, Appendix). In the same period, total wholesale prices more than doubled. Beginning in 1990, however, EC requirements have gradually promoted free competition. In 1992 the government abolished controls on profit margins and price controls on most products, including imported petroleum and petroleum products. The result was an overall decrease in prices in 1992. Legislation in 1993 abolished some remaining restrictions.

Between 1985 and 1992, average wages of workers in manufacturing increased by 179 percent. Until 1990 the government played a direct role in establishing wages in private as well as state-owned enterprises. The nationwide Automatic Indexation Scheme and government norms for wage increases destroyed jobs by forcing artificial wage levels on enterprises in poor fis-

cal condition. Beginning in 1991, however, free collective bargaining has become the rule, and since that time the government has not interfered in wage settlements in private enterprises. Wage arbitration also moved noticeably from the national to the local and enterprise level in the 1990s, promoting labor market flexibility. Although the government did not raise public-sector wages or pensions in 1992–93, the overall rate of wage increases did not subside during that period. The 1995 plans for meeting EU convergence standards included a 6 percent limit on wage increases that year, together with tight hiring restrictions to constrict wage outlays in the public sector.

Industry

The productivity rate of traditional industry remains very important to the Greek economy, even as the service sector appears to be the primary source of growth. In spite of prolonged stagnation in manufacturing, experts believe that the industrial sector can be a source of effective increases in human productivity and labor skills, innovation, and efficient organization for the production of services themselves. In the early 1990s, some industries made significant advances in these areas, spurring hopes that the entire sector would revive.

Greek manufacturing, and industrial activity in general, underwent great expansion in the 1960s, but the sector has been slowing ever since and has virtually stagnated in the early to mid-1990s. In view of the importance of the industrial sector in a country of medium-level development such as Greece, experts consider this current inertia one of the root causes of the country's economic problems.

Energy

The energy sector has exhibited significant growth in Greece. Between 1982 and 1992, total energy consumption grew from 16.1 million to 22.9 million tons of oil equivalent (Mtoe), an increase of 42 percent. Of 1992 consumption, 8.2 Mtoe came from coal, 13.8 Mtoe from oil, 0.8 Mtoe from hydroelectric generation, and 0.1 Mtoe from natural gas. The country depends on imports for a significant portion of its energy. In 1992 domestic energy production amounted to 8.6 Mtoe (an increase of 54 percent over the preceding decade), whereas net imports amounted to 15.6 Mtoe.

In 1991 Greek hydroelectric stations produced slightly more than 10 percent of the power generated domestically, liquid-fuel-burning thermoelectric stations produced about 23 percent, and coal-burning thermoelectric stations produced about 66 percent. Greece has no nuclear power plants. Between 1980 and 1991, electricity production increased by 48 percent. Expansion of coal-burning stations accounted for more than the net increase because production from the other two sources declined during that period. Thus, the use of domestically available coal for electricity production has been intensified over this period.

Domestic production of fuel consists mostly of coal. With known reserves of about 3 billion tons, production in 1990 amounted to 51.9 million tons, nearly double the amount in 1980. Crude petroleum is extracted in the offshore Prinos Field, near the island of Thasos in the northern Aegean Sea. Production of crude was 6.7 million barrels in 1989, down from about 9.5 million in 1985. Between 1982 and 1992, Greek oil production dropped by 33 percent, and further declines are expected because reserves are rapidly being depleted. The largest refinery is the Aspropyrgos Refinery near Athens, which has a capacity of 110,000 barrels of oil per day.

The distribution of electricity consumption among sectors of economic activity in 1992 was as follows: industrial consumption absorbed 27 percent, transportation absorbed 42 percent, and other uses such as agriculture, commerce, and municipal installations accounted for 31 percent. Classified another way, in 1990 industry used 33 percent, transportation used 30 percent, and households and commercial establishments used 37 percent. Between 1982 and 1992, industrial consumption grew by less than 5 percent, transport consumption by 49 percent.

Electricity production in Greece is the domain of the state-owned DEI. A limited amount of private electricity production is allowed, but most of the power in this category is consumed by the generating enterprise or sold to the DEI. In 1991 less than 3 percent of Greece's total electricity production of 32,786 gigawatt hours was produced outside DEI facilities. The country's power generation capacity stood at 9,446 megawatts in 1991.

The DEI is implementing a large-scale, ten-year program of investments and modernization, which is projected to cost US\$5 billion. The program will involve the construction of new thermoelectric and hydroelectric capacity, the development of



*Small hydroelectric dam, Peloponnesus
Courtesy Sam and Sarah Stulberg*

environment-friendly forms of energy generation such as wind and geothermal sources, extensive automation of generation and load distribution centers, and other technical improvements.

The use of natural gas is meager in Greece. A major project, long in the planning stage, is extension of a pipeline from its present terminus in Bulgaria to deliver Russian natural gas to Greece. The project will be funded by the Second Community Support Framework of the EU. The project will allow the replacement of oil currently used for power supply by many consumers. Such an adjustment will reduce environmental pollution, especially in urban areas. The main 520-kilometer pipeline will be supplemented by urban distribution networks in Thessaloniki and the Athens metropolitan area. The projected cost of this project is about US\$2 billion. After years of delay, in September 1994 Greece signed new protocols with Russia for

supply and with Bulgaria for pipeline construction between the Bulgarian port of Burgas and the Greek port of Alexandroupolis, on the Aegean Sea. The line is seen as a foundation of new industrial development in northern Greece.

Construction

Construction of buildings, especially houses, is an important part of the Greek economy that has long been a primary form of fixed investment. In 1991 more than 5 percent of GDP was produced by the construction industry (see table 8, Appendix). However, the construction of dwellings represented 23 percent of total fixed investment in the country that same year. In 1989 the construction sector generated 6.5 percent of total employment. In 1989 private construction built the equivalent of 67.3 million cubic meters of space, compared with 49.3 million cubic meters in 1985. In both years, about 43 percent of this activity took place in urban areas. Public construction of buildings, totaling 2.8 million cubic meters in 1989, was minor compared with private construction.

Given the important role that construction of private housing has traditionally played in the economy, together with the political significance of housing supply, economic policy makers have favored construction activity as a way to boost incomes, employment, and domestic demand. Thus, the construction sector has been a long-time political favorite that receives tax advantages. In the climate of deficit reductions and tax reform dominating the mid-1990s, however, the increased taxation of construction is being seriously contemplated.

An important part of the activity of the construction sector is large public works projects. The construction sector will receive major benefits from large-scale infrastructure projects contemplated in the second half of the 1990s. Among those projects are an upgraded Athens metropolitan railroad system, a US\$3 billion project already under construction; a new Athens airport whose total projected cost is US\$4 billion; and major bridges such as the Riou-Andirriou connection northeast of Patras, which is projected to cost US\$500 million. Seaport and highway construction is also included in infrastructure expansion plans. Under the terms of EU financing for these major projects, bids for their construction must be opened to international competition. This requirement means that the Greek construction industry will rapidly open

up to international competition and to international joint ventures.

Mining

Mining and quarrying represented only 1.8 percent of GDP in 1991 and 0.6 percent of total employment in 1989. Despite the small size of the mining industry, however, its importance lies in the significant mineral wealth of Greece. Lignite has an important role in electricity generation. Bauxite, the raw material for aluminum production, is also found in abundance in Greece, with known reserves of 1 billion tons. There are also substantial deposits of ferronickel ores, magnesite, mixed sulfurous ores, ferrochrome ores, kaolin, asbestos, and marble. Recovery of metallic ores remains concentrated in the hands of a few large companies. In 1988 there were sixty-two mining operations, employing 2,696 persons, an average of forty-three workers per company. Quarry production, on the other hand, is fragmented among many small enterprises. In 1988 some 945 quarries were in operation, employing a total of 6,362 persons, an average of about seven persons per establishment.

Among the main mineral ores being mined, 1990 production was as follows: 4.3 million tons of asbestos, 2.5 million tons of bauxite, 2.1 million tons of nickel ore, 697,000 tons of magnesite, and 177,000 tons of chromite. A portion of this production is exported in raw form, but beginning in the 1980s, concerted efforts have been made to develop domestic processing capability.

Bauxite processing has been a major element of industrial metallurgy development projects in Greece. A major investment by the French Pechiney group in the 1960s was the first important step in the processing of Greek bauxite and the production of alumina (semiprocessed aluminum ore) and aluminum. In the mid-1980s, Greece signed an agreement with the Soviet Union for construction of a large alumina plant with a ten-year buyback arrangement for a large part of the plant's output. After the agreement was revised and the plan delayed, Greece again is actively pursuing this project in the mid-1990s. The plant's projected production capacity is 600,000 tons a year, making it the major user of Greek bauxite.

Manufacturing

Manufacturing provided almost 18 percent of GDP in 1991, making up the largest portion of the secondary sector's contri-

bution to national production. In that year, fixed investment in manufacturing represented 16 percent of the nation's total fixed investment. In 1989 manufacturing provided about 19 percent of the country's employment, including 21 percent of jobs among males and 17 percent among females.

For several years up to 1994, the contributions of manufacturing to the GDP, to employment, and to investment—respectively, 18 percent, 13 percent, and 20 percent in 1985—have remained at approximately the same levels. In general, manufacturing production has stagnated since 1980. For example, given a base value of 100 for 1980 production, the values for ensuing years are 101 in 1985, 103 in 1988, and 101 in 1991.

The manufacturing category includes a variety of subsectors and activities. In 1990 the four largest subsectors accounted for 43 percent of total value added in manufacturing; in order of importance, these were foodstuffs, textiles, chemicals, and processed nonmetallic minerals. The same four subsectors have been the leading contributors since 1977, when they totaled 45 percent of overall manufacturing value added. Computers, computer software, and motor vehicles are manufactured by a few smaller firms. Besides state-owned military equipment firms, two Athens-based private companies make armored fighting vehicles and helicopters for the military, as well as satellites and launch vehicles, and the Greek Arms Industry (Elliniki Viotekhnia Oplon—EVO) is by far the largest private military supplier (see *Defense Enterprises*, ch. 5).

In terms of employment, the leading manufacturing subsectors are foodstuffs, textiles, clothing and footwear, and transportation equipment (including shipyards), which contributed a combined 51 percent of total manufacturing employment in 1988. The same four subsectors were the leading providers of employment in 1978, when they contributed 48 percent of total manufacturing employment. It is clear from both the structure of value added and the structure of employment that the manufacturing sector's composition has remained largely immobile over the last fifteen years.

Between 1980 and 1991, the four subsectors showing the greatest growth in productivity rate, in order of growth performance over the whole period, were paper with 62 percent, beverages with 45 percent, rubber and plastics with 36 percent, and chemicals with 27 percent. The four subsectors showing the greatest declines in production over the period were leather and fur, down 41 percent; clothing and footwear, down



*Goat herd on a country
road, Epirus
Courtesy Sam and
Sarah Stulberg*



*Selling artichokes and
quinces, western
Peloponnesus
Courtesy Sam and
Sarah Stulberg*

30 percent; metal products, down 26 percent; and wood and cork products, also down 26 percent. In general, the steepest declines are found in the more traditional industries, although growth has been distributed between traditional industries and those employing advanced technology.

The statistical dominance of small and medium-sized enterprises (SMEs) in Greek manufacturing actually increased in the 1980s. Between 1978 and 1988, the percentage of manufacturing employment in establishments employing fewer than five persons rose from 29 percent to 31 percent, and the share of establishments employing fewer than fifty persons rose from 60 percent to 64 percent. The relative weight of small firms in Greek manufacturing is among the highest in the EU. The average number of people in the work force in Greece's largest enterprises, 278 workers, is among the lowest in Europe; by comparison, Sweden's largest firms average 384, Portugal's 600. One disadvantage of this preponderance of small businesses is that small firms have fewer resources for the research and development activities that enhance a country's competitive position. In 1990 Greece and Portugal showed the smallest shares of total business enterprise research and development in the EC, each contributing only 0.1 percent compared with Germany's 35 percent and France's 22 percent.

At the same time, the SMEs have made a major contribution to employment expansion in Greek manufacturing enterprises. Between 1978 and 1988, about 35,000 new jobs were created in manufacturing, but the contributions of SMEs and larger establishments were quite different. In that period, SMEs created 50,000 new jobs while those firms with more than fifty employees showed a net loss of 15,000 jobs.

The overall contribution of manufacturing to Greek exports has been substantial. In the early 1990s, manufacturing's share in total foreign-exchange earnings from exports of goods has fluctuated between 48 and 54 percent. In 1992 manufactured products earned US\$3.1 billion of Greece's total export income of US\$6 billion, or 52 percent. The main categories of manufacturing exports are textiles, earning US\$1.6 billion; metals and metal products, earning US\$595 million; chemicals and pharmaceuticals, earning US\$198 million; and cement, earning US\$182 million in 1992. Although there are yearly fluctuations in export earnings from one or the other product category, these products have been Greece's leading manufacturing exports since the mid-1980s.

Despite the vital role of manufacturing in total Greek export performance, very few manufacturing subsectors sell a preponderance of their product abroad. In 1991 only the export of leather and fur products exceeded domestic sales; basic metals showed the second-highest ratio with 47 percent of sales outside Greece. Virtually all other subsectors achieved less than one-third of their sales income from exports. These statistics indicate clearly that in general Greek manufacturing firms depend on the domestic market and local demand for their livelihood. Because of this situation, the rapid import penetration that followed EC membership in the 1980s caused serious damage to Greek manufacturing's ability to respond to domestic demand. Between 1983 and 1992, the percentage of imported goods out of total manufactured goods purchased moved from 31 percent to 47 percent.

In the 1970s and the 1980s, the prolonged crisis in Greek manufacturing led to acquisition by the public sector and by public-sector banks of a large number of ailing firms. By 1986 the state-owned Enterprise Reconstruction Organization had taken over forty-four such firms. In the ensuing years, a slow privatization and liquidation of these firms has taken place, and by 1994 almost none were left. Nevertheless, ownership of several ailing firms still remains with bank portfolios, especially in the Bank of Greece and the Industrial Development Bank of Greece.

Foreign investment in Greek manufacturing has not been very large, despite strong incentives legislated by the Greek government as early as 1953 for the enhancement and protection of foreign investment. Total postwar foreign investment in Greece is estimated at about US\$8 billion. Especially in the 1960s, a few large foreign investment projects were undertaken in new manufacturing sectors. The prime examples of such projects are the Pechiney Aluminum Plant, the Esso-Pappas petrochemical complex built by Standard Oil of America and Greek-American entrepreneur Thomas Pappas near Thessaloniki, and several shipyards. In more recent periods, foreign investment has concentrated on the acquisition of existing firms under the anticipated new conditions of a unified European market. Large acquisitions of this type have taken place in foodstuffs and beverages. When Greece's major cement company, AGET, was privatized in 1992, a large share of capital and the entire management were acquired by a large Italian con-

cern. In 1988 an estimated 18 percent of total manufacturing employment was under foreign ownership.

Public policy has taken a favorable stance toward manufacturing in the entire postwar era. Incentives that have been applied to encourage manufacturing production, investment, and exports include subsidies, tax breaks, tariff protection, and cheap loans. Greece's EC membership required elimination of direct and indirect protection to Greek firms, hence the phasing out of tariffs and export subsidies. Under EU conditions in the mid-1990s, any favorable treatment extended to Greek firms must also be available to firms from other member countries. In addition, the liberalization of Greece's financial system has eliminated the long-standing practice of regulating interest rates in favor of manufacturing (see *Banking and Finance*, this ch.).

Incentives to manufacturing are now primarily in the form of grants and subsidies for new investment. Grants are outright capital contributions that can vary from 15 to 55 percent of a project's investment cost, depending on the sector, the export potential, the technology content, and the location of the investment venture. In assessing such investments, the Greek authorities seek to achieve both industrial modernization and geographic decentralization away from the chronic congestion and environmental pollution of Athens and Thessaloniki (see *Pollution Problems*, ch. 2). Subsidies take the form of interest-rate subsidies, fast depreciation schedules, and special tax allowances. To avoid the proliferation of very small enterprises, recent changes to the law have also encouraged ventures featuring economies of scale.

In the early 1990s, some signs of manufacturing recovery emerged. Exports in sectors such as chemicals began to gain strength in 1993 and 1994. Between 1990 and 1992, manufacturing profits showed hefty annual gains of about 20 percent. The profits have improved the capital structure and raised the equity of manufacturing firms.

Agriculture, Forestry, and Fishing

Agriculture, forestry, and fishing, the components of the primary sector of the economy, contributed about 12 percent of Greek GDP in 1992, compared with 17 percent ten years earlier. A fundamental fact of postwar Greek development has been the sustained shrinkage of the role of the primary sector. Nevertheless, the primary sector, and especially agriculture,

remains of much greater importance to Greece than to most other EU countries. (In the EU as a whole, the agricultural sector contributes about 7 percent of GDP). On the other hand, Greek agricultural productivity is estimated to be about half the average for the EU agricultural sector as a whole.

Agriculture

Despite the nineteenth-century transformation of Greece's agricultural sector toward export crops, the tradition of small-scale landholdings fragmented into several work locations has persisted throughout the nineteenth and twentieth centuries. The pattern was reinforced by the application of state land distribution programs that divided national lands to endow landless peasants with holdings of their own. The only exception was in Thessaly, where tenant farmers cultivated cereal crops on large estates until the early twentieth century.

Consistent with the primary sector's declining role in the economy, employment has also declined. In 1981 some 972,000 persons were employed in the sector, representing 27.4 percent of national employment, as compared with 22 percent in 1991, when only about 873,000 persons were employed in the primary sector. Over that decade, about 10 percent more of the female work force than of the male work force remained employed in the primary sector, however. A major reason for this disparity is that in agricultural areas second occupations are available predominantly to men, while women remain tied more closely to their agricultural pursuits.

Greece's total utilized agricultural area is close to 3.7 million hectares, of which 59 percent is in the plains and 41 percent is in mountainous or semimountainous areas (see fig. 7). Two-thirds of the land under cultivation is used for crops, and about one-quarter for tree plantations. The remainder is used for vegetables, pasturage, and vineyards (see fig. 9). In 1990 the number of individual agricultural holdings was estimated at 924,000. Thus, the average area per holding is slightly less than four hectares. By contrast, the average holding in the EU as a whole is fourteen hectares. A similar comparison applies to hectares per working person in agriculture. In Greece, land area per agricultural worker is five hectares, whereas in the EU as a whole it is fourteen hectares. In 1987 about 24 percent of all holdings were less than one hectare in size, and another 67 percent were between one and ten hectares. Only the remaining 9 percent exceeded ten hectares. The small size of holdings



Figure 9. Land Utilization, 1994

in Greece is a major cause of lower agricultural productivity compared with other EU countries. The economies of scale offered by modern farming methods have a limited impact on small plots of land.

Differences in landscape and climatic conditions have led to differences in cultivation methods in various regions of Greece. Thus, for example, at the end of the 1980s, in Thessaly and Macedonia 85 percent of cultivated land was arable cropland.

In Crete, on the other hand, two-thirds of utilized agricultural areas were vineyards and tree plantations. In the Peloponnesus, almost two-thirds of cultivated land was arable cropland, and one-third was used for vineyards and tree plantations.

Animals and animal production constitute about 30 percent of the total value of Greece's agricultural output. The largest components of Greece's animal population are sheep and goats (estimated at about 14 million head), whose meat and milk, respectively, provide 6.2 and 6.6 percent of the agricultural total. Hogs and cattle numbered about 1 million and 655,000, respectively, at the end of the 1980s. Greek farmers also possessed an estimated 28 million chickens, 1.8 million rabbits, 1.3 million pigeons, and 1.2 million beehives at the end of the 1980s. Whereas most of the animals are evenly distributed among the agricultural regions of the country, about half the cattle are found in Macedonia, where large plains dominate the landscape. Beef and cows' milk account for 5.8 percent of agricultural output, chicken meat and eggs another 5.5 percent, and pork meat 3.5 percent.

The shares of major crops in total agricultural production in 1989 were as follows: industrial plants (mainly tobacco, cotton, and sugar beets) contributed 15.7 percent, cereal grains 10.8 percent, vegetables and fruits 10.5 percent each, olive products 9.7 percent, and grapes 5.5 percent. The last two products, traditional leaders in Greek agricultural exports, have now declined to relatively small parts of total agricultural production value.

The agricultural contribution to export values comes primarily from plant products, especially grains, fruits and vegetables, and tobacco. In 1992 Greece exported more than US\$1.5 billion of plant products for consumption or industrial use. The very limited export of animal products is confined mainly to cheese, whose export value in 1992 was US\$21 million, and leathers, which earned US\$38 million the same year. On the other hand, a large portion of food imports into Greece are meat and milk products, purchase of which cost US\$1.4 billion in 1992, 7.2 percent of total Greek import expenditures.

Since the World War II, public policy has supported agriculture strongly, partly because the devastation of the Civil War necessitated immediate reestablishment of populations in agricultural areas to regenerate the food supply. This state support took three forms: income and price supports, special credit conditions, and organizational aid.

Income and price supports, which were mainly administered through a list of national minimum prices for crops, have now been largely eliminated by the subsidy restrictions placed on EU members by the union's Common Agricultural Policy. In 1992 agricultural support funds from the EU to Greece amounted to US\$3.3 billion, or 62 percent of all funds flowing from the EU to Greece. Domestic expenditures for agricultural subsidies, supports, and public projects amounted to US\$1.9 billion, about 7 percent of the state budget in 1992.

Greek agriculture traditionally received special credit conditions from the Agricultural Bank of Greece, which had been founded in the late 1920s for that purpose. However, the banking liberalization that began in the late 1980s under European directives is reshaping the Agricultural Bank of Greece into a full commercial bank. Moreover, no sector can receive favorable lending terms under the competitive credit conditions that are now taking over the Greek money market. Nevertheless, agriculture remains an important segment of the credit market because the demand for "cultivation loans," which are essentially working capital facilities, remains high. By the end of 1993, agricultural loans accounted for 15 percent of total bank credit outstanding.

Organizational aid to agriculture has taken a variety of forms. Land consolidation programs have been on the agenda for a long time, aiming to overcoming the extreme fragmentation of landholdings. Greece has had a voluntary consolidation program since 1963 as well as compulsory consolidation in coordination with large irrigation projects. However, consolidation, which is essentially a voluntary process, occurs only very gradually. Between 1985 and 1989, the yearly averages of hectares consolidated and villages participating were 11,700 and fifteen, respectively.

The formation of agricultural cooperatives has been another method of streamlining agricultural production and overcoming the limitations of small landholdings and fragmentation. Farming cooperatives were first officially established in Greece in 1915. Eventually the cooperative structure was built up vertically with provincial cooperative unions and a national federation of unions, which still exist. Every Greek government has supported cooperatives, or some aspects of their activities, as part of its agricultural policy. Cooperatives also take specialized forms, such as credit unions and marketing ventures. Under the socialist governments of the 1980s, cooperatives were

greatly enhanced. A large portion of agricultural credit was allocated via cooperatives. Investment incentive laws, which were primarily directed to manufacturing and tourism, were also extended to cooperative farming investments, and the direct marketing of agricultural produce was encouraged in order to bypass frequently monopolistic private wholesalers of produce. At the end of the 1980s, some 7,300 local cooperatives were operating with an estimated membership of 940,000.

Forestry and Fishing

Although forests cover an estimated 15 percent of the country's land area, forestry makes a very limited contribution to Greece's GDP. In 1992 the industrial wood, firewood, and resins derived from Greek forests amounted to less than 1 percent of the GDP. Although the value of forest production showed a tendency to increase, the volume of production declined during the 1980s. Greek forests, which had been devastated during the World War II occupation and the Civil War, recovered to some extent in the postwar era. However, forest management, like other forms of land management, has been a very low priority of all postwar governments. Underutilized and overgrown, the forests have been plagued by fires in recent years. In the 1970s, forest fires burned about 78,000 hectares; in the 1980s, some 200,000 hectares of forest were destroyed by fire. The trend is continuing in the 1990s, although since 1985 fire protection efforts have intensified.

Despite its maritime tradition and its extensive coastline, Greece is not a major producer of fish. In 1992 fishing contributed 0.7 percent to the Greek GDP. In 1992 the Greek fishing fleet numbered 21,167 vessels with a total gross tonnage of 118,000. About three-quarters of its capacity was in vessels of less than 100 tons. In 1988 some 16,510 persons were employed in fishing. Fishing output has steadily increased since the 1980s. In 1983 Greek fishing production from all regions amounted to 99,090 tons (live weight). In 1991 output had risen to 148,768 tons (live weight), with a 50 percent increase in volume since 1983. Pollution in the Mediterranean and overfishing in coastal waters have reduced the traditional contribution of coastal output to domestic consumption. Most fish comes from the Mediterranean at large, and about 10 percent of the total in 1992 was caught off the Atlantic coast of North Africa. The three largest fishing ports are Piraeus in the south

and the Macedonian ports of Thessaloniki and Kavala in the northern Aegean.

The Service Sector

The Greek service sector is the largest and most heterogeneous component of the national economy. It comprises a considerable variety of activities ranging from street vending and rental of tourist rooms to highly automated telecommunications, sophisticated financial transactions, and public administration. The service sector also probably includes a good portion of the "underground economy." It is therefore possible that the value of its output and its employment level are understated.

Transportation and Telecommunications

Transportation and telecommunications, two segments of the service sector that are vital in supporting all economic activities, are undergoing rapid modernization in the mid-1990s. The transportation system underwent extensive reconstruction and expansion after World War II. However, in some cases geopolitical factors have hindered further expansion of the system. In many respects, Greek telecommunications still lag behind the systems of Western Europe, and topographical and geopolitical factors have hindered expansion.

Transportation

The coastal location of many Greek cities and towns, the multitude of islands, and the rugged terrain of the country's interior have traditionally made sea transport the basic means of linking localities within the country and Greek cities with foreign countries. The five largest Greek cities are all major ports: Athens/Piraeus, Thessaloniki, Patras, Heraklion, and Volos. In all, Greece has 123 ports large enough to handle passengers or freight. Besides the traditionally busy ports of Piraeus, Thessaloniki, and Patras, the ports of Igoumenitsa in the northwest, Volos in the east, and Kavala in the northeast have been gaining importance as transfer points for goods destined for Italy, the Middle East, and the Balkan countries (see fig. 10).

The Greek merchant fleet is among the largest in the world. In 1981 Greek-owned vessels numbered 4,402, totaling 50,909 gross tons. Of that number, 3,932 ships totaling 42,389 gross



Figure 10. Transportation System, 1994

tons were registered under the Greek flag, and in that year, Greek-owned ships comprised 12 percent of world shipping tonnage. By 1990 all numbers had decreased. At that point, 2,189 vessels, totaling 24,970 gross tons and representing 6 percent of world tonnage, were Greek-owned. In 1994 the Greek merchant fleet was operating 1,407 vessels totaling 46.4 dead-weight tons. In 1990 about 10 percent of Greek-owned ship tonnage sailed under foreign registry. Hard-hit by the international shipping slump in the 1980s, the Greek-registered part of the fleet shrank from a high of 3,972 ships in 1980, when Greece had the second-largest merchant marine in the world.

In the second half of the twentieth century, coastal shipping has declined as a connector of domestic points because of the development of an extensive overland transport network. The great majority of overland transport is by road rather than railroad or air. In the early 1990s, however, the closing of major roadways in the former Yugoslavia, which had provided an overland connection between Greece and Western Europe, enhanced the importance of Ionian ports such as Igoumenitsa, Patras on the northwest shore of the Peloponnesus, and Kalamai at the southern tip of the Peloponnesus.

In 1990 Greece had 38,312 kilometers of roads, of which 9,100 kilometers were classified as national highways and 29,212 kilometers as provincial roads. About 21,000 kilometers of the latter category were paved roads, and 116 kilometers of the former category were classified as express roads. Changing geopolitical conditions in the Balkans and the Black Sea region have affected Greek plans and policies for expanding the existing road network. Nevertheless, Greece plans to spend about US\$370 million on its roads and ports between 1995 and 1999, with about 70 percent of that amount coming from the EU's cohesion funds. Among the projects in that program, one is the Via Egnatia, a 740-kilometer road that would duplicate the path of an ancient Roman causeway and link Igoumenitsa in the west with Alexandroupolis in eastern Thrace, before proceeding to the Turkish border. This road is part of the EU's attempt to reverse the decline of the Greek northeast, which is now one of the least-developed regions in the entire European Union. The second project is a 480-kilometer road running north and south in western Greece to link Igoumenitsa with Patras and Kalamai. Both major highways have projected completion dates early in the 2000s.

The Greek rail system is under the administration of the Greek Railroads Organization (Organismos Sidirodromon Ellados—OSE), which was established in 1971. In 1991 the total length of the Greek rail network was 2,503 kilometers, of which twenty-six kilometers was a high-speed electrified shuttle line connecting Athens and Piraeus. The rail system in 1991 was not appreciably longer than it was before World War II. Of the existing rails, 1,565 kilometers are 1,435-millimeter gauge, 887 kilometers 1,000-millimeter gauge, and fifty-one kilometers 750-millimeter gauge. The Athens-Piraeus shuttle uses the broadcast gauge track; the Athens-Peloponnesus line uses 1,000-millimeter track. Throughout the postwar period, the rail system was neglected in favor of road and air transportation. For that reason, much railroad equipment is obsolete, and operation costs are high.

To remedy the railroads' backwardness, beginning in 1978 the chief construction project of the OSE has been modernization of the main line from Athens through Thessaloniki and on to Idhomeni on the border of the Former Yugoslav Republic of Macedonia (FYROM), a corridor that carries more than half of Greece's rail traffic. After domestic funding proved inadequate, in 1990 the EC approved a grant of half the project's total cost, to be matched by funds from Greece's Public Investment Program. At the end of 1993, about 70 percent of the 510-kilometer line from Athens to Thessaloniki had been double-tracked, electrical signals were in operation along the line except in one 134-kilometer segment, and a modern telecommunications system covered the entire axis. In 1990 new diesel locomotives went into operation on this line, cutting transit time from seven hours to six hours, ten minutes. In the planning stage is upgrading of the 220-kilometer Athens-Patras line, which is to be converted to electrified, 1,435-millimeter-gauge track with modern signaling, able to handle speeds of 200 kilometers per hour.

In 1992 the OSE operated 214 diesel locomotives, 106 diesel train-sets, 467 passenger cars, and 10,585 freight cars. Railcars and equipment were supplied by German firms and Hellenic Shipyards of Piraeus.

In 1993 construction began on a twenty-six-kilometer extension of the Athens-Piraeus line, in order to provide Athens with a three-line urban rail system. Construction of a subway system in Athens was halted in 1983 because of lack of funds, and in

1992 mass transit in the city still depended on electrified rail, trolleys, and buses.

In 1991 the Greek railroads carried 12.3 million passengers and 3.5 million tons of freight, over an average distance per trip of 164 kilometers. In 1989 the corresponding load of the interurban bus transport system, also operated by OSE, was 164 million passengers carried over an average distance of thirty-two kilometers. Thus, the pattern of mass-transit passenger use divides between longer distance rail use and shorter distance buses.

In 1989 passenger boats and car ferries on coastal runs transported 11 million passengers. Finally, urban public transport of all forms in 1989 carried an estimated 862.1 million passengers, three-quarters of whom were in the Athens metropolitan area. In the latter, 20 percent of the passenger load is carried by the existing Athens metropolitan rail system, about 10 percent by electrical trolley buses, and the remaining 70 percent by normal buses.

The use of private passenger cars has increased along with the growth of the urban and highway road networks, providing an ever-greater share of total transport service in the economy. There were 858,845 cars in 1980, but their number had doubled to 1,735,523 in 1990, significantly worsening the air quality and traffic congestion in major urban areas. For several years, restrictions have been in force on passenger car circulation in Athens, and are gradually extending to other cities and tourist areas in the summer. To ease severe air pollution in Athens, plans call for harsher restrictions on numbers of cars and their mechanical and exhaust specifications.

Air travel within the country is the exclusive domain of the state-owned Olympic Airways. In 1992 Olympic operated four Boeing 747s, eight A300s, seventeen Boeing 737s, nine Boeing 727s, and twenty-one other aircraft. In 1989 some 6.7 million passengers were transported. Olympic offers domestic flights among the principal cities and islands and overseas to most points in Europe and the Middle East, as well as to Japan, Singapore, Thailand, South Africa, and the United States.

Although the passenger loads of the company have been growing at an average of about 3 percent annually, Olympic Airways has been facing financial difficulties as a result of high costs. A plan to restructure its operation has been negotiated between Greece and the EU, which has undertaken to regulate the national air carriers of member countries.

Thirty-seven airports are in operation, of which the majority are located in the islands and are used by military as well as civilian flights. The two largest international airports are located at Athens (Hellinikon Airport) and Thessaloniki (Thessaloniki-Macedonia Airport). In the early 1990s, Hellinikon Airport handled an average of 6.3 million passengers annually. Other international airports are located at Alexandroupolis, Corfu, Lesbos, Andravida, Rhodes, Cos, and Heraklion. A new international facility is planned at Spata, at the tip of the Attic Peninsula southeast of Athens.

Greece has no navigable rivers. The six-kilometer Corinth Canal, completed in 1893, connects the gulfs of Corinth and Saronikos, thereby shortening by 325 kilometers the west-east voyage from the Ionian Sea to Piraeus on the Gulf of Saronikos. Maximum draught of ships using the canal is 7.1 meters, maximum width 19.4 meters. Three bridges span the canal: one carrying a rail line, two carrying roads.

Telecommunications

The establishment of telecommunications networks comparable to those in Western Europe has been difficult in Greece. Several factors have influenced this situation, which has endured for several decades: unstable and polarized political conditions, the mountainous interior and dispersed islands, and the inefficient monopoly of telecommunications, which are run by the state-owned Greek Telecommunications Organization (Organismos Tilepikoinonion Ellados—OTE).

When the telephone system was nationalized and the OTE was established under the Ministry of Transportation and Communications in 1949, only one Greek in 100 had a telephone line. Development remained slow through the 1970s; then, beginning in 1981, the Papandreou government began a concerted effort to modernize the country's antiquated telephone network by installing automatic digital exchanges in place of older mechanical exchanges. This process began in 1986, but distribution of digital equipment proceeded very slowly into the early 1990s. During the 1980s, Greece's per-line investment was only about 4 percent of the average for the most developed countries in the world, the telephone breakdown rate in that period was fifty-seven per 100 inhabitants, and the average waiting period for telephone installation exceeded four years.

Between 1980 and 1990, the number of automatic exchanges increased from 1,209, with a capacity of 2.5 million



*Pizza sign on Santorini (Thira), a favorite tourist destination
Traffic jam on an Athens side street
Courtesy Sam and Sarah Stulberg*

lines, to 1,923, with a capacity of 4.1 million lines. In the same period, the number of telephones in operation increased from 2.8 million to 4.7 million. The waiting list was longer in 1990 than in 1980, however, and even high-priority users, such as hospitals and businesses, waited for as long as a year for installation in 1990. In 1992 Greece had 4,722 telephone exchanges and 5.3 million telephones in service.

In the early 1990s, the politicization of the OTE remained a serious obstacle to installation of a modern national communications network. During the socialist administrations of 1981–89, telephone investments were awarded first to regions supporting the party in power, and by 1988 the OTE was the focal point of charges that the government had wiretapped opposition leaders. In 1990 the new conservative government promised that by 1993 about 1.2 million digital lines would be in service and cellular service would be introduced. (At that point, Greece was the only EC country without cellular service.) In the years that followed, bids for cellular and digital equipment procurement brought bitter disputes over suppliers and calls for reform. In 1991 the EC issued special communications standards for Greece because of its slow development.

In the early 1990s, the poor quality of transmissions limited the use of the public network for data transmission. The leasing of modem lines from the OTE is subject to complex regulations and limitations. In 1987 a public-packet switched data network, Hellaspac, began operation. Mobile telephony became the first type of telecommunications not monopolized by the OTE when two private consortia introduced it in 1993. In 1994 the Papandreou government attempted partial privatization of the OTE by selling a minority part of the company's equity capital on the Greek and foreign stock exchanges, but the plan died amid interministerial wrangling and insufficient planning when market prices for the shares appeared much lower than expected. Instead, the government extended the OTE's monopoly over the national telecommunications infrastructure and cable networks until 2003. Although new privatization plans were possible as early as 1995, experts disagreed about the prospects for price reductions, modernization, and the fate of foreign networks in the Greek market without genuine domestic competition in the industry.

Greek Radio and Television (Elliniki Radiofonia Tileorasi—ERT) is the government broadcasting corporation. Since private broadcasting stations were legalized in 1987, breaking the

state monopoly of telecommunications, Greek television and radio programming has diversified significantly, although the ERT's broadcasts still reach the largest numbers of listeners. In 1993 about 2.3 million television sets and 4.1 million radios were in operation.

In 1994 the ERT's Greek Radio (Elliniki Radiofonia—ERA) was operating twenty-five medium-wave and eighteen frequency-modulation (FM) radio stations; eleven private radio stations were operating in Athens at that time, and twenty-two additional stations broadcast to regional areas. Four national and regional networks provide domestic radio programming, and an external service, the Voice of Greece, broadcasts overseas in sixteen languages.

In 1994, the ERT's Greek Television (Elliniki Tileorasi—ET) operated three television networks, encompassing forty-seven channels. Of that number, Athens had five, Thessaloniki three, and the Greek islands a total of ten stations. The ET-1 network provides the main service, ET-2 specializes in cultural programming, and ET-3 transmits regional programming from its Thessaloniki facility. Two private television channels that were licensed in 1990 have gained large audiences, and other private entertainment channels had been licensed by 1992. The government networks provide color telecasts through the French Secam color television broadcast system. Several foreign cable channels are received in Greece, but only one, the Cable News Network (CNN), provides regular news coverage.

Tourism

As the most internationalized subsector and one of the major industries of the Greek economy, tourism is a strong earner of foreign exchange. The warm climate, the long, scenic Mediterranean coastline, the many significant archaeological and historical sites, the traditional hospitality of Greeks, and improvements in the local infrastructure have increased the number of foreign travelers attracted to Greece. The tourist residence capacity has grown also. Between 1970 and 1990, the number of beds in tourist accommodations increased from 119,000 to 438,000. Of this residential capacity, 84 percent is located in hotels, of which Greece had 4,659 in 1992. However, the share of motels, furnished apartments, and guest houses has been increasing over the last decade.

Tourist visits followed a moderate growth trend in the 1980s. In the last two decades, Greece's traditional competitors, Spain

and Portugal, have been joined by Turkey and the other Balkan countries with beaches on the Adriatic and Black seas. Total nights spent by foreigners in Greece were 30.6 million in 1981 and rose to 34.5 million in 1989. Since the mid-1980s, tourist arrivals have generally fluctuated between 8 million and 9 million persons per year, but in 1994 this number exceeded 10 million. Despite long efforts by Greek governments to extend the tourist season throughout the year, Greek tourism remains concentrated in the summer months. In 1990–91, for example, three-quarters of tourist arrivals took place in the five-month period between May and September.

The vast majority of tourists visiting Greece are European. In 1989 some 92 percent of tourists were European, compared with 88 percent in 1981. In 1991 the largest numbers of tourists in Greece came from Germany and Britain, which together accounted for over 40 percent of the total. Visitors from Yugoslavia, Italy, France, and the Netherlands added another 24 percent. The share of United States tourists in the total dropped significantly, however, from 4.4 percent in 1981 to 2.3 percent in 1989.

The major archaeological sites of Greece remain a strong attraction for tourists. In 1990 the most visited sites were the Acropolis of Athens (1.4 million visitors), the palace of Knossos on Crete (706,306 visitors), the temple of Apollo at Delphi (590,736 visitors), the Epidaurus Theater in the Peloponnesus (540,596 visitors), the palace and treasure of Mycenae in the Peloponnesus (507,161 visitors), and the Acropolis of Lindos on the island of Rhodes (419,187 visitors).

Foreign-exchange earnings from tourism have been increasing since 1983. In 1992 tourist earnings amounted to US\$3.3 billion, showing an average annual increase of 5.5 percent since 1983. Tourist receipts have risen at a considerably faster rate than tourist night-stays, indicating that the Greek policy of upgrading the quality of tourist visits has been rewarded by increased per capita spending. In 1992 the amount of foreign exchange earned from tourism equaled 55 percent of Greek merchandise exports for that year, accounting for almost 20 percent of total Greek exports of goods and services.

Besides extending the tourist season, policy makers have sought to promote tourism in the north and west of the country and to enhance luxury tourism. Infrastructure projects for maritime tourism, such as the increased construction of marinas, have been a major priority in recent years. Investment

incentives similar to those offered to manufacturing are also extended to tourist projects. In awarding grants and subsidies, state policy has favored Epirus, Macedonia, Thrace, and the eastern Aegean Islands. Support rates also depend on the type of project; luxury hotels and therapeutic treatment spas, sports, and winter tourism resorts now receive preferential treatment.

Banking and Finance

The financial sector's importance in Greece surpasses its proportional contribution to the country's GDP, which in 1990 stood at about 3 percent. Besides its traditional functions in collecting savings and reallocating them by lending, the financial system in Greece, as in many advanced countries, has begun to perform a variety of other services such as underwriting new security issues, corporate services for acquisitions and restructuring, wealth and portfolio management, and leasing. In the early 1990s, the capital market for securities also has grown quickly, and the volume and frequency of transactions on the Athens Stock Exchange have multiplied.

The bulk of the financial flow in the Greek economy always has moved through the banks. The banking system consists of three kinds of institutions. One is the central bank (the Bank of Greece), which manages and controls the country's money supply and its exchange rate with other currencies. The bank accomplishes these tasks mainly by regulating the liquidity of other banks and by direct interventions in money markets (including the foreign-exchange market). It is also the main supervisory agency for the quality of commercial bank portfolios, and the protection of the monetary system against bank failures. In line with requirements of the 1992 Maastricht Treaty, which standardized the financial organizations of EU member countries, the Bank of Greece must become independent of the government, and the bank must enforce strict limits on government use of the money supply as a source of loans. European central banks also will be jointly responsible for the management of the projected European common currency.

Commercial banks are a second type of financial institution in the Greek system. They are deposit institutions that traditionally have engaged in commercial and industrial lending. More recently, Greek commercial banks have expanded their operations to provide a wide range of wholesale and retail banking services. Their loans include commercial, industrial,

consumer, and mortgage credits. They issue credit cards and travelers' checks, buy and sell foreign exchange, and issue letters of credit. They directly engage in securities underwriting. Through their subsidiaries, they also offer brokerage services and own mutual funds of Greek and foreign securities.

A third class of institution is the "specialized credit institution" such as investment banks, the Agricultural Bank of Greece, mortgage banks, and the Postal Savings Bank. The traditional role of these institutions was to offer credit in specifically designated areas. However, banking liberalization and European policies on a unified banking market have forced specialized institutions to diversify their operations. In the 1990s, specialization in a particular area must be determined by market conditions rather than by legislative constraint. The prime example of this change is the Agricultural Bank, which was legally restricted to granting agricultural credit, distribution of which it in turn monopolized. In 1991 the Agricultural Bank became a full-fledged commercial bank, at the same time that other commercial banks were allowed to enter the agricultural credit market. The same conversion occurred with mortgage and investment banks.

Commercial banks operating in Greece include both domestic and foreign institutions. The number of such institutions is constantly increasing. In 1992 twenty-two Greek and eighteen foreign banks were in operation. The foreign banks, which operate in Greece through locally established branches, control about 10 percent of assets and deposits in the Greek banking market. Among Greek banks, the Bank of Greece is by far the largest institution, controlling 29 percent of banking assets and 37 percent of deposits in 1991. The largest among the foreign banks is the New York-based Citibank, which in 1991 controlled about one-quarter of the assets and one-third of the deposits held by foreign banks in Greece.

A number of Greek credit institutions are either directly or indirectly controlled by the state. Some, such as the Industrial Development Bank of Greece, are 100 percent state-owned. A majority interest in others, notably the two largest commercial banks, the National Bank and the Commercial Bank of Greece, is held by employee pension funds that traditionally have been managed by the state. Recent changes in legislation seek to moderate state control by granting a degree of self-management to employee pension funds, and shares in the banks are now traded on the stock exchange. Smaller subsidiary banks,

such as the medium-sized Ionian Bank of Greece, are owned by the Commercial Bank of Greece and the National Bank of Greece.

The major assets of commercial banks traditionally included credits and loans to the private sector. Since the late 1980s, however, the heavy borrowing requirements of the state have altered the portfolios of bank assets. Roughly one-third of their assets now are made up of government securities, equal to the share devoted to loans and security holdings of the private sector. The liabilities of commercial banks continue to be dominated by private deposits.

Since 1987 the Greek banking system has undergone almost complete liberalization. Interest rates are now set by market conditions, quantity controls on credit have been long abolished, foreign-exchange transactions and capital movements have been deregulated, and restrictions on entry into banking have been removed. In the implementation stage in 1995 were EU directives on the freedom of bank establishment among member countries, on the free provision of financial services across frontiers, and on common standards for capital adequacy. In short, banking is becoming a modern and very competitive business in Greece.

The Athens Stock Exchange (ASE) has also undergone significant modernization and revitalization since 1987. Legislation enabling the formation of brokerage firms and their participation as members of the exchange, the introduction of an automated trading system, and the establishment of a Central Securities Depository have been the main institutional changes of recent years. In 1993 market capitalization of the shares listed was US\$13.5 billion, and the total value of market transactions was US\$2.8 billion. Between 1990 and 1993, fifty-seven listings were added, bringing the total number of companies with listed stocks to 150. New capital raised in 1993 through stock issues amounted to US\$436 million. Plans call for enhancement of stock-exchange operations by linking of the Athens exchange with peripheral terminals such as Thessaloniki and by encouraging foreign companies—most notably those in the Balkans—to list their shares on the exchange.

In the mid-1990s, government policies in the financial area are mainly directed to the maintenance of competition in banking, and to further strengthening of the role of the stock exchange. The new competition in banking is manifested mainly in the appearance of new products and services such as

automated teller machines, whose introduction by market leaders soon forced most banks to follow suit. An initiative has been adopted to establish an automated interbank clearing and payments system in Greece.

The exchange rate of the Greek unit of currency, the drachma, has undergone gradual devaluation (called a "managed float") since 1987 (see Wages, Prices, and Inflation, this ch.). In mid-1994, elimination of Greece's short-term capital movement restrictions and a decisive defense of the currency by the large Greek banks deflected speculation on the drachma that could have resulted in sudden devaluation.

Foreign Trade

In the 1990s, Greece's international economic activity was directed increasingly toward equality with its partners in the EU. At the same time, however, the traditional patterns of foreign trade and trade balances remained quite stable.

The Balance of Payments

Greece's balance of payments has maintained the same characteristics for a long time; specifically, the trade balance (exports minus imports) has traditionally been negative. In the years 1991–93, exports of goods fell short of imports by an annual average of more than US\$13 billion. The traditionally positive balance of invisibles, particularly services such as tourism, shipping, and transfers such as remittances from emigrants and payments from the EU, has usually covered most of the trade deficit. In the years 1991–93, invisibles showed an annual surplus of about US\$11.5 billion. Finally, the country has usually had a positive net capital flow, which in 1991–93 averaged US\$3.5 billion per year. The overall outcome of Greece's international payments was a surplus in 1991 and 1993, but a deficit of US\$2.1 million in 1992. On the whole, since 1990 surpluses have exceeded deficits, and the country's foreign-exchange reserves have grown considerably. At the end of 1993, foreign-exchange reserves stood at US\$8.7 billion.

Export and Import Structure

One of Greece's important export sectors is the sale of international shipping services, which are a crucial source of foreign exchange. Having reached an historic high of US\$1.8 billion in 1980–81, these earnings then declined to US\$1 bil-



*Ship passing through Corinth Canal between Peloponnesus
and Greek mainland
Courtesy Sam and Sarah Stulberg*

lion by 1986 before recovering and approaching the US\$2 billion level in 1992. In 1992 the foreign exchange earned by shipping equaled one-third the value of Greek merchandise exports and about 13 percent of total exports of goods and services.

In 1992 two-thirds of foreign-exchange earnings from shipping came from shipowners' remittances. The share of sailors' remittances has declined consistently, however, because of increasing utilization of cheaper foreign labor on Greek-owned vessels. Chronic stagnation of the Greek shipping industry in the late 1980s and early 1990s has prevented additional earnings from this source.

Besides shipping, between 1991 and 1993, the largest contributions by invisibles to goods and service export income came from two services: tourism contributed 19 percent, and emigrant remittances added 14 percent. Even before World War I, remittances from the large Greek émigré community began to make a significant contribution to Greece's foreign-exchange earnings. From that time until the mid-1990s, they remained a significant source of foreign currency.

Net receipts from various programs of the EC, which averaged US\$4 billion per year between 1991 and 1993, amounted to 25 percent of invisibles. The largest types of expenditures recorded under invisible payments were interest, profits, and dividends transferred abroad, amounting to over US\$2 billion and representing about 20 percent of all invisible payments; and expenses for Greek tourism abroad, which averaged US\$1 billion in 1991-93, or 10 percent of invisible payments.

Trading Partners

Because Greece's membership in the EC since 1981 has meant abolition of trade barriers of all kinds, the geographic distribution of Greek foreign trade has been increasingly oriented in favor of its partner countries in the EC/EU (see table 9; table 10, Appendix). In 1980 some 49 percent of Greek exports and 43 percent of imports were directed to or originated from countries of the EC. In 1992 EC countries received 62 percent of Greece's exports and supplied 62 percent of its imports. Among EC countries, the main trading partner was Germany, which in 1992 absorbed about 22 percent of exports and supplied 20 percent of imports. Italy was the second largest trading partner, with export and import percentages of 18 and 13 percent, respectively. The next largest export partners, in

order of trade value, were France, Britain, Egypt, the United States, and Cyprus. The next largest import partners, in order of trade value, were France, the Netherlands, Japan, Britain, and the United States. In the early 1990s, the greatest trade increases occurred with Bulgaria, Egypt, Japan, China, and the Republic of Korea (South Korea). The sharpest decline occurred with Yugoslavia.

The United States is Greece's largest trade partner outside the EU. In 1992 the United States bought 16 percent of Greek exports and sold 9 percent of Greek imports. In 1992 Greece showed a negative trade balance with the United States of US\$867 million. Between 1988 and 1992, trade with the East European and former Soviet nations that until 1991 constituted the Community for Mutual Economic Assistance (Comecon) more than doubled, with exports growing from US\$209 million in 1988 to US\$568 million and imports from US\$599 million in 1988 to US\$931 million in 1992.

Greece's main export products are fruit, vegetables, olive oil, clothing, and textiles (see table 11, Appendix). The chief imports are machinery, transportation equipment, food, chemical products, and petroleum and petroleum products (see table 12, Appendix). The last category of purchases caused a trade imbalance with the nations of the Organization of the Petroleum Exporting Countries (OPEC) of nearly US\$1.3 billion in 1992; between 1983 and 1992, expenditures for oil imports from OPEC remained relatively steady at between US\$1.5 billion and US\$2 billion, with steep drops in 1988 and 1989 partly caused by falling world oil prices.

Capital flows into Greece have been both private and public. Most public capital flows are incoming government loans or outgoing repayment of existing loans. Besides the government, the central bank and state-controlled credit institutions also engage in foreign-capital transactions. At the end of 1993, the Bank of Greece estimated that the amount owed directly or guaranteed by the Greek government to foreign creditors was about US\$26 billion.

Private capital flows into Greece have been significant in recent years. In the period 1987–92, Greece received long-term net private capital flows for long-term forms of investment totaling US\$9.7 billion. Of those, US\$4.3 billion was in entrepreneurial capital, and the remainder was in real estate investment.

Since 1989, Greek investment in manufacturing enterprises abroad has accelerated, primarily in the neighboring Balkan countries. Food processing, textiles, other consumer goods, and building materials are the primary sectors of Greek manufacturing investment in Bulgaria. According to official estimates, Greek investment now ranks first among all foreign investment in Bulgaria and is among the leaders in Albania and Romania.

International Economic Policy in the 1990s

In the 1980s and 1990s, the dominant factor in Greece's international economic policy has been participation in the EC (now the EU). EU policies for internal market unification, free capital movements, and movement toward implementation of the Economic and Monetary Union (EMU), set forth in the Maastricht Treaty, form the main axes of Greek policy. The guidelines of Greece's participation in the EMU were set in 1993 when the EC Council of Ministers approved a five-year Convergence Plan. By 1998 the plan calls for Greece to have reduced the annual inflation rate to 4 percent, increased GDP growth from 2 percent to 4 percent per year, reduced the public-sector deficit to 0.2 percent of GDP, and reduced unemployment to 7.7 percent. Some of the goals were modified in 1994.

Having liberalized all restrictions on its trade within the community since the 1980s, Greece has proceeded in the 1990s with the liberalization of capital movements. Remaining restrictions on short-term capital movements were eliminated slightly ahead of schedule in May 1994 when Greece faced a speculative attack against the drachma.

The EMU includes plans for the eventual creation of a single European currency. As countries converge toward the common currency, their ability to conduct national economic policy will be correspondingly reduced. Already, for example, the liberalization of financial markets and the freedom of capital movements has reduced the flexibility of Greece's monetary policy, by requiring that domestic interest rates be aligned with those prevailing in European money markets. Presumably, the loss of national control over this phase of Greece's economic policy will be balanced by large resource transfers that will raise economic levels in real terms for the less developed partners.

Greece's regional economic policy is mainly oriented to newly arising market economies in the Balkans and the Black Sea region. The policy envisions unified infrastructural com-

munications and transportation networks; the implementation of a "drachma zone" in the Balkans to enhance Balkan currency convertibility and introduce the trading of Balkan currencies in the Athens foreign-exchange market; support for Balkan firms in the form of financial services and contributions to EU programs for private-sector initiatives; and export guarantee plans for Greek firms trading with enterprises from formerly socialist economies (see Transportation and Telecommunications, this ch.).

Commercial initiatives in the Balkans and the expansion of Greek activities in the EU have forced considerable adjustment in Greece's domestic economy. After the prolonged slump of the 1980s and early 1990s, the Greek economy entered a period of adjustment in 1991. In that period, conformity to EC regulations had the potential to streamline troublesome aspects of the system by shrinking the influence of the public sector and stimulating privatization. If full-scale participation in the international economy helps Greece tighten its macroeconomic policies and continue structural reform, the long-term prospects of exploiting available resources will improve.

At the end of 1994, the PASOK stewardship of the national economy received mixed reviews. The Greek business community continued to vacillate about committing large amounts of capital to new investment; the government's large debt had increased, although at a slower rate; and few of the planned, large-scale EU-funded infrastructure projects had begun. On the other hand, inflation continued to decline, attaining twenty-year lows by the end of 1994; manufacturing production showed signs of reviving; reformed tax laws were successfully implemented to reduce special-interest bias and increase the rate of revenue collection; and exchange controls were removed completely without endangering Greece's balance of payments or its exchange rate. Expert projections for 1995 included a continued restraint on income and consumption and a continued rise in unemployment. If confidence in the economy were to continue to increase, however, public and private investment would stimulate new growth in the mid-1990s that could overcome Greece's divergences from the European average in growth rate, inflation, and rate of fiscal consolidation.

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Invaluable current information and statistics on economic policy and trends are provided by the Economist Intelligence Unit's quarterly *Country Report: Greece* and the Organisation for Economic Co-operation and Development (OECD) annual *OECD Economic Survey: Greece*. General descriptions of Greece's telecommunications and media systems are available in *The World's News Media*, edited by Harry Drost, and Eli M. Noam's *Telecommunications in Europe*. Economic development in the postwar period is discussed in *The Economy of Greece, 1944-66* by Wray O. Candilis and in Nicos P. Mouzelis's *Modern Greece: Facets of Underdevelopment. Greece and Yugoslavia* by Nicholas V. Gianaris describes the historical development of the economy of those countries and economic policies in the 1970s and 1980s. In his *The Development of the Greek Economy, 1950-1991*, George A. Jouganatos places an econometric analysis of post-war economic events in the context of political events. A broad review of Greek economic evolution in the twentieth century can be found in *The Greek Economy in the Twentieth Century* by Andrew F. Freris. *Greece, the New Europe, and the Changing International Order*, edited by Harry J. Psomiades and Stavros Thomadakis, provides an extensive analysis of issues pertaining to Greek membership in the European Community. The National Statistical Service of Greece publishes a *Monthly Statistical Bulletin* that includes economic indicators. The most current information can be found in the London daily *Financial Times* and in the monthly economic supplements of the Foreign Broadcast Information Service's *Daily Report: Western Europe*. (For further information and complete citations, see Bibliography.)