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CHAPTER I

INTRODUCTION

Turkey in war or peace occupies in the Middle East a position of strategic importance both geographically as well as politically. She has the potential to become strong economically at home and in international trade. It is the primary objective of this study to explore these economic potentialities and to discover, if possible, a few of the major economic achievements already obtained by this country primarily through economic aid from the United States.

Geographical Position

Turkey's geographical location has cast it in a major historic role that can be traced back through various civilizations. And yet probably in no previous period of history has Turkey attained more importance than the present. With growing concern being given to the concept of a "balance of power" between the two major political philosophies of the world, the Turkey of today may help to swing the balance in favor of the democracies.

From the Anatolian Peninsula—Anatolia being another name commonly applied to Turkey—a hostile power could occupy interior lines for expansion into Europe, Asia, or Africa and could control the eastern Mediterranean as well. The Turkish people are not oblivious to this basic fact. Nor do they need to be reminded that Russia borders Turkey for many miles along the northeast boundary. When she looks to the west, there is no basis for complacency because her neighbor—Bulgaria—
who shares her border is a communistic satellite of the USSR. The recent (1951) flare-up in Iran, Turkey's eastern neighbor, served to highlight even more vividly for Turkey the spreading influence of an ideology which is foreign to her.

**Political Position**

Because of her strong democratic sympathies, Turkey's political position is equally significant. As early as 1923, when the foreign ideology of communism mentioned above was just beginning to find expression in Russia, Turkey liquidated the old Ottoman Empire and ushered in a new democratic nation. Her Constitution and Bill of Rights are similar to those of the United States with the same concept of individual freedom. Today Turkey shares with us the ideas of separation of church and state, equal status for women, compulsory primary education and free higher educational opportunities. The Constitution of Turkey, like that of the United States, guarantees the fundamental rights of its citizens to freedom of religion, speech, press, assembly, and petition. "Every Turkish citizen, irrespective of his sex, has the right to vote. The press enjoys freedom in the widest sense of the word. Any obstacles to the free expression of opinion, verbally, in writing, or by way of the ballot-box, and all laws which do not fit a truly democratic scheme, are being abolished with utmost speed."

It is interesting to note that elections and political life in Turkey, today, are conducted in much the same way as in the United States. The two major parties in national politics are the Republican

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and the Democratic Parties. Electioneering is carried on with great vigor and rival candidates for office pull no punches in their mutual criticisms. In the elections of May 14, 1950, the Democratic Party won a sweeping victory, ousting the Republicans who had been in office for twenty-seven years, thus setting the stage for the further growth and development of Turkish democracy. In this same election, 88 per cent of the eligible voters throughout Turkey exercised their political prerogative. This contrasts sharply with the experience in this country with the voting privilege.

It would be very difficult to estimate the influence of Turkey, as our political ally in Asia, on the other Asiatic countries. Her political influence on the Middle Eastern countries alone may be very significant in the future. Perhaps this influence will rise somewhat in proportion to her growth in political and economic strength.

It seems rather strange to find a country of Asia so strongly endowed with the spirit of democracy. And yet a closer look at the geography and topography of the country may offer a clue to an understanding of this phenomenon. We often refer to the general area of Turkey as Asia Minor. This was the name applied to the land mass in early times. It would appear, therefore, that Turkey is primarily Asiatic in its culture and its economic outlook. Actually, Turkey has been for many years more European than Asiatic. Possibly the protrusion of the land mass from the Asiatic mainland is partially responsible for

3 Turkish Information Office, "Mr. Smith Visits Turkey", New York, p. 6.
a different outlook. Or perhaps the gentle slope of the land mass
toward the west down to the Black Sea on the North, the Aegean Sea on
the West, and the Mediterranean Sea on the South accounts for the
"western" influence. "The economic gates of the country actually open
toward Europe and turn their back to the East for as you travel east on
the plateau of Central Asia Minor the mountains reach increasingly
higher as if closing the gates of Asia. This has so influenced the
history of the peninsula that since the dawn of civilization Asia Minor
has historically been more a part of Europe than of Asia."

Economic Potentialities

The economy of Turkey is truly that of an underdeveloped country.
Only in the few large cities can one find evidence of modern industrial
activity. There are modern factories, steel mills, department stores,
insurance companies, theaters, harbor facilities, and railroads of
course. And yet "Turkey is four fifths rural and agricultural; her
40,000 villages have scarcely changed for a thousand years. Here one
sees the oxcart with the spokeless wheel portrayed in Sumerian sculpture
of 3000 B.C., the ancient wooden plow, the huts often barely visible and
nestled together in some location where their owners could be safe from
surprise attack through the centuries. Little but the ox or the donkey
would serve to carry the peasants or their goods, since there are no
rural roads of consequence and many of the so-called roads are mere
trails."5

5 Thornburg, Max W., Turkey, An Economic Appraisal, The Twentieth
The impression which most visitors get of Turkey is that of a thin layer of modernity imported from abroad and imposed from above upon a population the larger part of which is still steeped in medieval or even ancient ways of life. Nevertheless, in spite of the handicap of a culture which is strictly non-technical in nature, we can marvel at the heroic struggle of the Turkish Republic during its twenty-nine years of life to mold the Turkish people into a modern state. Something has been done in the course of this revolution; much more remains to be done.

If Turkey is to strengthen her economic position so that it will attain the strategic importance of her geographical and political positions in the world of today, she can probably find her greatest potentialities—at least in the near future—in agriculture. This is due to Turkey's essentially agrarian society plus the fact that this particular industry can accomplish the greatest improvement with the minimum cost. Probably in no other industry could technical assistance result in greater returns. In no other industry can one expect greater increase in productivity with very limited capital improvements. Vast improvements in agricultural production which could aid in the solution of the serious food shortages throughout the Middle and Far East would surely help to improve Turkey's economic position throughout the world. And as will be pointed out later, this potential actually exists in Turkey today.

Another key industry offering vast potentialities in the struggle for economic advancement is transportation. It should be mentioned, however, that greater capital expenditures will be involved here. This industry includes harbor and shipping equipment, railroad facilities,
airport and aircraft improvements and even more basic—local and national highway construction. Since the transportation and agriculture industries are so inextricably bound together economically, little hope for over-all economic advancement of Turkey could be found if emphasis were to be placed on one at the expense of the other.

A further area for improvement aimed at enhancing Turkey's economic position is that of power. The power industry, as in transportation, requires vast capital outlays. Nevertheless, this basic industry is vital to Turkey's further advancement. This area includes coal mining and coal processing equipment, lignite mining and processing facilities, and both thermal and hydroelectric power generating plants.

Finally, improvements in the iron and steel industry are basic to an expanding industrial economy. Many experts—as we will see later in this study—feel that this area of improvement lies in Turkey's distant future. Nevertheless, improvements are currently going on in this particular industry.

It is the writer's opinion that the improvements in the basic industries enumerated above could materially aid Turkey in her struggle for a strategic economic position in the Middle East and throughout the world. Without these basic improvements, Turkey's geographical and political position could not be utilized effectively to help stem the tide of world communism.

Objectives and Methods

The primary objective of this study is to explore the economic potentialities of Turkey. One method to accomplish this task would be the development of a number of case studies of selected industries
throughout Turkey in order to determine their status or condition in the post–World War II period at the time economic aid was first administered by the United States. Then it will be necessary to learn exactly how much aid—and from what sources—was supplied to each of these industries. Finally, an attempt will be made to measure the returns which are attributable to total expenditures on improvements in each separate industry. This is done in order to measure—at least to some degree—the relative effectiveness or efficiency of each expenditure on each of these basic industrial areas within the Turkish economy.

These industry case studies have been formalized into definite development projects by the Economic Cooperation Administration (more recently the Mutual Security Agency).

Five of these major projects have been selected to be examined by such a case study method. These projects are roads, coal, lignite, hydroelectric power, and iron ore. It should be made perfectly clear that these projects which have been chosen for close examination in this study are not intended to represent the total American aid program. Nor are they intended to show the scope of economic development throughout Turkey since the advent of American aid. These project studies, which make up Chapters VI through X, are submitted as representative of what has taken place in five important fields within the scope of the American aid program. Perhaps through this technique a sounder base will be established upon which to predict Turkey's future economic potentialities.

Another method which might prove useful in predicting Turkey's economic future is the examination of her balance of payments. It is hoped that recent balance of payments data will reflect—at least in
part—some of the over-all economic development already experienced from the basic industry improvements. It must be clearly understood, however, that the full impact of Turkey's development program which is centered primarily in the basic industries will not be felt for many years to come. We can only attempt— at this juncture— to discover the very earliest and perhaps faint signals of Turkey's economic potentialities. If substantial signals of improvement are detected at this time when the program is a little over four years old, one might logically expect a multiplying effect as the development program's full ramification is experienced throughout the economy of Turkey. A close examination of Turkey's balance of payments, therefore, should reveal a number of important factors which will bear on her future economic development.
CHAPTER II

HISTORICAL BACKGROUND

Historical background is of paramount importance in understanding any nation's past economic progress and future economic potentialities. This is especially true of Turkey because of the sweeping changes in recent years and because of the political, economic, and religious background from which these changes took place. Writing in 1922, William S. Davis said, "For many years to come the eyes of thoughtful men will be turned anxiously upon the complex problems of the Near East. To understand even a modicum of those problems, it is needful to understand the long, tangled history of their past."¹ The attempt is not made in this chapter to give a detailed history of Turkey. Only an attempt is made to show a few of the primary historical influences bearing upon present-day economic changes which, perhaps, will help to explain the possible course of action of the future economy of Turkey.

Pre-Ottoman Era

Reference has been made in Chapter I to the influence of the West on Turkish institutions. As early as 323 A.D., when the Roman Empire was at its height, Greco-Roman influence in Egypt, Syria, and Asia Minor

seemed to be transforming the Near East into outwardly "Westernized" lands. But this condition could not last. The general weakening of the Empire involved an equal weakening of Western influence in the Levant. At Constantinople from 395 A.D. onward the spirit of Imperial Rome was waning and this vast fortress beat down repeated and deadly attacks. The attacks came from the Huns (Tartar), the Goths (Germanic), and the Serbian and Russian (Slavic) Barbarians from the North. Constantinople was also invaded from the East by the Persians. The first set of these attacks represented the forces of barbarism. The second represented the Orient which had come under the influence of a new kind of religion. 2

"The modern problem of the Near East finds its genesis in the collision between Orientalism as represented by Islam and Occidentalist as represented by Christianity. It is perfectly clear that for practical purposes down to present times the struggle of Islam with Christianity has been very decidedly a struggle of East with West." 3 With the advent of Mohammed, the clash of East with West became more intensified. To political opposition there was now added the deadlier fire of religious hate. Mohammedanism became a religion primarily of power and not of love; a militant fanaticism appealing partly to the evil which lies in men and only partly to the good. It was a religion with such rigidity of laws and social prescriptions that any nation which accepted this faith could not advance beyond a certain minimum point in its civiliza-

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3 Ibid., p. 100.
4 Ibid.
rooted out, in the Levant, the last vestiges of Western influence for many centuries to come.

The origin of this Islamic force began with the birth of Mohammed of Mecca in Arabia on April 20, 571 A.D. In numerous bloody wars that followed, Mohammed arose as the uncrowned King of Arabia by 632 A.D. With great secular acumen the Prophet was soon arranging to dispatch armies against both Rome and Persia. Before his dreams of conquering the West could be fulfilled, however, death came upon him suddenly in the same year (632 A.D.). Nevertheless, Mohammed died with his work completed. Arabia was won for Islam; and the Arabs, directed by his competent disciples, ultimately carried Islam to the Atlantic coasts and to the Malayan isles.5

Down from the vast areas of northern Asia now known as Turkestan and Siberia came a migration of nomad tribesmen known as "Turks". The Turks were fairly unspoiled barbarians, in the nomad stage, or only a little higher, when the Arabs conquered Persia in the seventh century. As they began settling in southwestern Asia, they borrowed from their civilized neighbors. These Turkish-speaking tribes were mobile and adventurous. War was their delight and however primitive their science and ethics, they early learned how to mobilize great armies. It was a glory of these people to die in battle. To die of illness was shameful.

The Turks gradually were absorbed by Islam more by commercial and cultural inducements than by coercion. Probably not before 1000 A.D. did the bulk of the Turks accept the creed of Mohammedanism. When they

5 Ibid., pp. 116-117.
did so, however, Mohammedanism entered upon a new lease of life. The dynamic power of Arabian Islam had spent itself. "The Turks, as has been suggested, were of a race with but a single high quality—that of the soldier. The mandate to extend by war the confines of their faith confirmed their most inveterate propensity. Semitic warriors had won for Mohammedanism nearly all of Nearer Asia. Turkish warriors were to carry their crescent far into affrighted Europe."6

The Turks adopted Islam with fervor and enthusiasm and became its ardent champions. While the Arabs were devoting themselves to cultivating the arts of peace, the Turks devoted themselves to the extension of the power of Islam. The main Turkish horde was irresistibly attracted towards the rich lands of Asia Minor.

The Ottoman Empire

The origin of the Ottoman Turks is still not clear but apparently around 1250 A.D. a sizable Turkish "horde" pushed on by Mongol attacks from the eastward, crossed the Euphrates seeking new places for settlement. The horde—women, children, old men, slaves, and many cattle—was headed by about 4,000 warriors. Their destination was the central plains of western Asia Minor. The story is told that as they approached an open field, a deadly encounter was in progress between two mortal enemies—the Turks and the Mongols. Unaccustomed to standing by while a battle was being fought, they immediately threw their force into the bloody combat. These Ottoman Turks loved battle for battle's sake. In true fighting spirit, they flew to the relief of the army which seemed

6 Ibid., p. 169
the weakest—The Turks. The Mongols were defeated and the Turks thus strengthened began their foreign conquest. Such, according to the Oriental historian Neschri, is the first recorded exploit of that branch of the Turkish race, which from Ertogrul's son, Othman, has been called the nation of the Ottoman Turks.  

"It is significant that the first appearance of the Ottomans in Asia Minor was marked by combat. The beginnings, the growth, and the subsequent decline of their empire were signalized by battle. Throughout the six odd centuries that the Ottoman Empire existed, its fortunes were largely measured by its success in battle." The Ottoman Turks began their move westward by 1300 A.D. Thrace on the European continent was invaded successfully in 1343. By 1372 much of the Balkans had been overrun.

It should be mentioned at this point that Constantinople still held out against the oriental hordes. Christianity's slim fortress was doomed, however, with the siege of Constantinople which began on April 6, 1453. Constantine put up a valiant defense. But since he was unsuccessful in getting help from Rome, and lacking help from western Europe which might have saved his capitol, the forces of Mohammed, with remarkable strategy, were able to take the city by assault on May 29, 1453 after a thousand years of Imperial Christian rule. Constantinople was then declared the capitol of the Ottoman Empire.

The conquerors continued their expansion at all points of the compass, and by the end of the sixteenth century the Ottoman Empire embraced the Balkan Peninsula, parts of Hungary and Poland, the shores of Russia on the Black Sea, Persia, Arabia, Egypt and the Mediterranean coast of Africa. The Turks had become the greatest power in Europe, Africa and western Asia.9

The Decline of the Ottoman Empire

As indicated earlier, the Turks' only major ability was their military superiority and their fighting qualities. They knew the secret of empire building in the old Oriental tradition but they lacked the wisdom necessary to retain their hard-fought gains. They did little to arouse or hold the loyalty of conquered populations. In fact, they actually solicited their own eventual doom through heavy tax collections, sporadically enforced edicts, corruption and favoritism among the rulers.

The Ottoman Empire never became a well-organized, cohesive empire which its predecessor, the Roman Empire, accomplished. It lacked the political and cultural adroitness and the strong economic institutions upon which the Roman Empire had been built. Its religion also served as a deterrent to economic development as contrasted with a religion more conducive to economic progress—the Christianity of the Roman Empire.

Until the Industrial Revolution, the great military power of the Ottomans was sufficient to maintain a weak economy resting on far-flung

tributary possessions. But after that Revolution, military power everywhere came gradually to depend more and more on industrial power. "The Ottoman Empire failed to build up an industrial system and did not have sufficient military strength to hold its tributaries."\(^{10}\) As the strength of Mohammedan religion grew in the empire, there grew up in Turkey certain legal and economic practices which practically stopped further economic development and affected the attitudes of the people. These practices will be discussed in Chapter III.

Nationalism of the subject peoples who had been under dominance of the Ottoman Empire for several centuries began to flourish while fears of conquest on the part of those outside the boundaries of the Empire were intensified. "Wars and revolts caused the Ottoman regime to start crumbling in the seventeenth century. The process was hastened in the eighteenth century and by the end of the nineteenth was well on its way to completion. For example, Russia captured the Crimea; Britain detached Egypt; the Greek war of liberation of 1821 was succeeded by others until not only Greece but the Balkans were freed."\(^{11}\)

Soon after the turn of the 20th century, a revolutionary movement within Turkey itself began to resist the dictates of the once-powerful Sultan. This revolutionary spirit was lead by a group of spirited hopefuls in Turkey known as the "Young Turks". By the beginning of World War I, they had gained control of the Sultanate. In 1914 they


made Turkey an ally of Germany. "When the Central Powers collapsed there was nothing left upon which they could rely. All of the outlying imperial territories had come under the control of Allied armies, Constantinople was occupied, the government was under Allied control and Anatolia itself was threatened."  

The Revolution

The complete destruction of the Ottoman Empire and the establishment of the new Turkish Republic were accomplished by the Turkish Revolution. This revolution was no mere substitution of one ruler for another; it altered the whole direction of Turkish life. Also known as the "War for Turkey", this revolution had both external and internal objectives. It began as a war against foreign conquest. Its internal influence—political and economic—is apparently as strong today as it was in 1917. It substituted a republic for an absolute monarchy; it altered religious authority, centuries-old customs and even the written language.

"It is impossible to understand the economic changes without appreciating that they did not spring primarily from economic motives. The Revolution was not an uprising of a middle class against feudalism, or of the poor against the rich; the economic program was incidental to a heroic effort to save and revive the nation. No other Middle Eastern people have accomplished so much so rapidly as the Turks since their Revolution."  

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12 Ibid.
For a number of years prior to the end of World War I, there had been a reform movement in Turkey stimulated by a group of militant Nationalists known as the "Young Turks". These revolutionists were resolved to regenerate the country by adopting Western ideas. Defeat in war and the nerveless collapse of the imperial government increased their patriotic ardor and stimulated their revolutionary tendencies.

Following the close of the first World War, the Allied armies of occupation moved into the Turkish territory to enforce the terms of the armistice. The members of the victorious Entente had agreed, as early as 1916, on the final dismemberment of the Ottoman Empire. "Tsarist Russia was to get the Dardanelles, Constantinople and a part of Armenia. Britain was awarded a protectorate of Palestine and of Mesopotamia—which later became Iraq—with the Mosul oil fields. The French zone in Syria was to be extended, and France was to have special rights in the Adana region, stretching far into southern and central Anatolia, the very heart of Turkey."14

If this program had been carried out, not only would Turkey have lost outlying regions, as she did (Iraq, Syria, Lebanon, Palestine and the Arabian peninsula were severed from her.), but two thirds of Anatolia itself would have disappeared from the national territory. Then Turkish subordination to the victors would have been complete. However, a young man later to be renamed "Ataturk" arose out of obscurity and rallied a Nationalist movement against the occupation powers.

14 Ibid., p. 15.
Elections were held in Turkey in the autumn of 1919 with a new resistance party—the Nationalists—winning a majority. Turkey's first National Assembly met in January 1920 at Constantinople (Istanbul) and adopted a sort of Turkish Declaration of Independence called the National Pact. The Allies immediately deported its leaders. Atatürk, however, had remained in the interior and was now the only prominent Nationalist at liberty. He called a meeting of the National Assembly in Ankara on April 23, 1920, asserted that all governmental power rested in this new Assembly, and was elected President of this central governing body the following day.15

Atatürk as a Military Leader

Allied occupation troops were situated at strategic ports all around the Anatolian peninsula and uprisings against the Nationalists by the Armenians and Kurds in the east placed the Ankara Turks in the center between two hostile forces. Both of these forces stood in the way of Atatürk and his ambition for political and economic independence for Turkey. Directing his armies first toward the east, Atatürk slaughtered many Armenians and dispersed the Kurdish tribesmen.

In June of 1920, the Greeks invaded Turkish Thrace on the European continent and another army of Greeks began moving northeastward from Izmir toward Bursa. The first major battle against the invaders of the west began in January 1921 when the Turks turned on the Greeks threatening Anatolia and defeated them. Another vicious battle against the

15 Ibid., p. 16.
Greeks ended in victory for Ataturk in March of that same year. However, reinforcements for the Greeks strengthened them in their advance on Ankara. The battle for Ankara raged for twenty-two days with the Turkish lines holding firm without a break-through. The Greek army finally broke off the engagement in late August of 1921.

Ataturk immediately started the long task of rebuilding his army which required one year to gain the desired strength necessary to throw back the foreign invaders. In August 1922 the Turkish attack on the Greeks swept the enemy westward into the sea. Next Ataturk turned his attention to the Allied garrison at Canakkale on the Dardanelles and forced the French and Italians to withdraw their forces at once. The British, remaining alone and outnumbered, agreed to an armistice on October 11, 1922. The Treaty of Lausanne, between the Western powers and the Ankara government was then signed on July 23, 1923. This treaty secured once and for all the territorial integrity and independence of the Turkish Republic. "Ataturk had become the national hero, and his followers set about their task of building a new and modern state, imitating the West in order to be strong enough to resist any invader in the future."\(^{16}\)

**Development of Democracy**

In the meantime, on August 10, 1920 the Allies signed the Treaty of Sevres with the old Ottoman regime. This marks the removal of the last vestiges of the once-powerful Ottoman Empire since it was this treaty which forced the Turks to give up territories they had possessed

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as an empire. The areas were then divided among Great Britain, France, Italy, and Greece.17

These losses of their former territory brought the people to a consciousness of the weakness of the Empire and a conception of some of the reforms needed. Out of this awareness developed a new solidarity.18 Coupled with this movement to strengthen the political position of the New Turkey, an influx of new ideas and diversity of opinions began to flow from the West. The major source of these ideas came from the flood of exiles returning, mostly from Paris and Geneva, to enjoy the new liberty. "They had had a variety of experiences and had been led in sundry paths of thought recently new to them. They had also been viewing the homeland from a distance and conjuring up visions of a new life which they would like to live and help others to live there."19

Out of this renaissance of ideas arose a political figure who was already well established as the military hero of the battle for Turkish independence. This natural-born leader seemed to possess the necessary vision and ability to synthesize the great diversity of views into a workable program for progress. He soon became known throughout the whole country as the "Gazi" (Savior) by the multitudes who looked upon him as the Savior from their military and political degradation as well as their economic immaturity. This man, Gazi Mustafa Kemal Pasa, is

19 Webster, Donald Everett, The Turkey of Ataturk, (Philadelphia: The American Academy of Political and Social Science, 1939), p. 27.
known today throughout the world for his transformation of a backward country into a modern twentieth century society. It was not until the last few years prior to his death (in 1938) and after most of his great achievements had been completed that the people of Turkey referred to him by the name Kemal Ataturk. "The Grand National Assembly voted on November 24, 1934, to bestow upon the President the surname, Ataturk, which means 'First and Foremost Turk'. Kemal Ataturk, even to this day, is revered by the Turks with a faith almost approaching deity. The Gazi's picture is everywhere; his deeds are recited daily and his praises without end.

The development of Democracy along the lines of the Western countries has been extremely difficult in Turkey. Ataturk, together with the founders of the new Turkish state, in looking forward eventually to a two-party system, patterned their political organization as closely to that of the western democracies as possible. They followed these models in constructing their Constitution and laws. They established an independent judicial body and made the Constitution subject to amendment. But they could not duplicate a representative democracy at once because of their completely different cultural background.

Inhabitants of Turkey had been subject for centuries to centralized, authoritarian rule. The only experience they had had in self-government existed in the small, isolated villages. The majority of the population was illiterate when Ataturk began his reforms. Transportation and communication were so meager that instead of one Turkey, there were

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20 Ibid., p. 133.
thousands of little Turkeys. This situation could not be overcome except through long and tedious process.

Realizing the necessity for gradual development toward democracy, Ataturk adopted the only possible approach to this eventual end. Again the end justified the means. Reforms were to be, and have been, handed down from above. The state assumed the initiative in the economic development of the country. From 1924 until the present, Turkey's development has been the result of a will imposed from above—a dynamic and patriotic will, to be sure, in contrast to the grasping corruption of the Sultans. "Democracy from the 'grass roots,' almost nonexistent at the beginning, has been growing slowly."21

Perhaps one might get the idea from the foregoing that due to the large part played by the State in economic activity, and because of the adoption of successive "five-year plans", Turkey's government bears a close resemblance to that of Soviet Russia. On the contrary, the contrast between these two opposite systems is indeed striking. The leaders of both political parties in Turkey—Republicans and Democrats—have never been Communists and have never adhered to a Marxist philosophy. They have had no desire to establish a workers' society. Instead of seeking an international revolution, they have been ardent nationalists from the beginning until the present. Their sole ambition has been to make Turkey a strong, modern state and their hatred for Russia and for all which she stands is today as intense as any of the "Western" democracies.

The major distinction which can be made between the recent dictators of Russia (Lenin and Stalin) and Kemal Ataturk of Turkey lies in the "genuine" allegiance shown the latter by all the Turks. There is no evidence that Ataturk did not possess complete faith by all the people in him and his deeds. He found it unnecessary to resort to the "police state" with all its attendant thought-control tactics and policies. His methods were as democratic as the existing cultural framework would allow. For example, even before Istanbul was evacuated by the Allied troops, Ataturk began an extensive tour of the provinces, talked with the people, explained his views, and enunciated, on April 1, 1923, the nine principles upon which candidates for office should stand in order to be elected by the voters. These nine principles were as follows:

1. Reform of the laws and the courts.
5. Unification of the schools system.
6. Reduction of the period of military service.
7. Financial improvements.
8. Economic development.

One of the most important decisions, during this period of the inception of democracy, was that of determining the location of the capital of the new Republic of Turkey. From almost the beginning of time, Constantinople had reigned supreme as the capital of middle-eastern culture as well as one of the leading trade centers of the world. In more recent times, this strategic city held the distinction of being the capital of the huge Ottoman Empire. As soon as Istanbul

was evacuated by the Allied troops in 1923, Ataturk began his first major alteration of the old regime. He reasoned that a new nation needed a new capital—as a symbol of a new political era for Turkey. Istanbul (Constantinople), located on the periphery of the country, lacked the necessary unifying influence required to gird the provinces together for a common purpose. On October 13, 1923, and by the direction of Kemal Ataturk, the Grand National Assembly voted to make Ankara the permanent capital of the Turkish state.

The next major act of the new Grand National Assembly was to proclaim the form of government of the Turkish state to be a Republic. This act marks one of the major milestones along the road toward Turkish democracy. At the same time, it was decided that the election of the President of the Republic would be by the Assembly and that he would also serve as the President of the Grand National Assembly.

The Assembly then proceeded to elect the first President of the new Turkish Republic. By unanimous vote, the Grand National Assembly chose the Gazi Mustafa Kemal Pasa (Kemal Ataturk) as their new President. The first cabinet of the Republic was formed at once (October 30, 1923) and the Constitution, embodying many western principles, was adopted on April 20, 1924. President Ataturk's reforms were thus instituted in a political framework resembling western democratic institutions.

Article three of the Constitution states that sovereignty belongs unconditionally to the nation. Under this constitution, legislative authority and executive powers are concentrated and manifested in the Grand National Assembly. Article seven provides that the Grand National Assembly will exercise its executive authority through the person of the President of the Republic elected by it, and a Council of Ministers
chosen by the President. However, in order to assure final authority by the Assembly, this same article provides that the Assembly may at any time control the activities of the Government (Council of Ministers) and dismiss it. The same thing holds true, of course, for the President which this Assembly elects. Thus the Grand National Assembly of Turkey is the sole representative of the nation on whose behalf it exercises the rights of sovereignty.²³

The Judiciary powers provided in the constitution are not unlike those in the western democracies. Article fifty-four provides that "The magistrates of courts are independent in the trial of all cases and in the rendering of their verdicts; they are free from all kinds of interference and are dependent only upon the law. The decisions of courts may not be modified in any manner whatsoever by the Grand National Assembly or by the Council of Ministers nor be postponed or their application be obstructed."²⁴ Article fifty-nine states that every individual shall have free recourse to all legal means which may be deemed necessary for the defense of his rights before a court.

The Constitution is very explicit regarding the general rights of Turkish citizens. "Every Turk is born free, and free he lives. Liberty consists of any action which is not detrimental to others. The limits of an individual's liberty, which is his natural right, extend only to the point where they infringe on the liberties enjoyed by his fellow-

²³ Turkish Information Office, "The Turkish Constitution", New York, p. 3.
²⁴ Ibid., p. 11.
citizens. The said limits are defined solely by law. (Article sixty-eight)25 The Constitution abolishes every type of group, class, family, and individual special privilege. Personal immunity, freedom of conscience, of thought, of speech and press, the right to travel, to make contracts, to work, to own and dispose of property, to meet and associate and to incorporate are all provided under article seventy. No person may be deprived of his possessions and property without due process of law. (Article seventy-four). Finally, Article seventy-five protects citizens from being censured for their philosophical creed, religion or doctrine to which they may adhere. All religious services not in contravention to public order and morals and the laws are authorized. Primary education is compulsory for all Turks, male or female, and is free in public schools.26

It was mentioned earlier in this discussion of the development of democracy that Ataturk looked forward eventually to a two-party political system.27 During the period of Ataturk's reform movement, however, the Republican party was the sole political party of the country. After his death in 1938 a new party, the Democrats, was formed and grew in strength until the elections of May 14, 1950, when this new party won a sweeping victory. They ousted the Republicans who had been in office for twenty-seven years. Political campaigning by representatives of

26 Ibid., p. 16.
27 Actually, in the past decade, several political parties have been established in Turkey. Thus she has a multi-party system. Neverthe less, just as in the U.S., two parties control the political realm.
both parties "is carried on today with great vigor and rival candidates for office pull no punches in their mutual criticisms."28

"The conduct of the 1950 election demonstrates the strength and stability of Turkish democracy. The Turk is a sturdy, patriotic, self-reliant and resourceful individual. A large and growing number of Turkish people are energetically seeking ways to lead their country along the path of progress."29 It appears that Ataturk's dream of the development of democracy in Turkey has at last come true.

The Reform Movement—Western Cultural Influence

At the very beginning of Turkey's new Republic in 1923, Kemal Ataturk's primary objectives were "the maintenance of Turkey's territorial integrity and political independence and the achievement of a higher standard of living for her people."30 To accomplish these basic objectives, the entire pattern of Turkish culture had to undergo drastic revision and there was absolutely no aspect of life in Turkey which was left unchanged by Ataturk in his reformation movement. A clear understanding of Turkey's present situation together with her prospects for future development appears impossible without at least a cursory glance at a few of the many changes effected during the inter-war period.

One of the early manifestations of the reform movement took place in the form of the adoption of western attire. Proceeding beyond the nine planks of the 1923 platform in reforms mentioned earlier in this

29 Barker, Op. Cit., p. XXV.  
30 Ibid., p. 39.
chapter, Ataturk made a tour of inspection and inspiration throughout Turkey. He chose a small, conservative interior town by the name of Kastamonu as the place in which to throw away his fez (headdress without visor) and to adopt the headgear of the West. Upon this occasion, he not only demonstrated to the populace how they would look in hats but at the same time he made a speech explaining that "the fez was not Turkish; that it was a borrowed garment which symbolized the headwork of another era. Since all good Turks were busy changing their thought patterns to conform and compete in excellence with those of the most advanced peoples of the West, it was appropriate to symbolize the change by donning the headgear of the West. This dramatic propaganda began three months before the Assembly outlawed the wearing of the fez."31

The intellectual significance of the "hat law" lies in the fact that Western attire has helped many Turks to overcome their feelings of inferiority in respect to the people of the West.32

The emancipation of womanhood has excited as much attention and admiration as any of the events in the Reformation period. On August 30, 1924, President Ataturk, in his address at the dedication of the tomb of the Unknown Soldier at Dumlupinar, explained to the people many of his reform ideas. One of the most important ideas expressed that day was the emancipation of women from the centuries-old custom of woman "inferiority" and "subjugation". Eighteen days later, Ataturk appointed a commission to prepare the new civil code, some of the articles of

32 Ibid., p. 132.
which gave women their rights. These articles were the most important in the code since they recognized as belonging to Turkish women for the first time the same rights as those enjoyed by American women, and more status under the law than is enjoyed by their French sisters. Since a special bill of rights for women might not have passed at that time, or, if enacted into law, might have resulted in a revolution against the Government, Ataturk chose to introduce the changes as a part of a more general move. It secured the desired end. This accomplishment by indirection is an outstanding example of the acumen of Ataturk. The subsequent granting of equal suffrage in municipal and later in national elections indicates again the "gradual" evolutionary method employed by the first and foremost Turk.

The emancipation of minds has been facilitated most by the alphabet reform. The Assembly initiated this reform by adopting the numerals used internationally. A commission of specialists on a new alphabet was formed by Ataturk to recommend a modified Latin alphabet adapted to Turkish phonetics. It is rumored in Turkey that this commission of linguists labored for several weeks without finding a satisfactory solution to its problem. Any alphabet it could work out was too complicated. When Ataturk heard one of its disappointing reports one evening, he came to the conclusion that the experts would never agree on a usable alphabet. Taking pencil and paper, he worked until sun-up completing a scheme for the alphabet which soon was adopted and which is in use today. Such action is consistent with and typical of the genius and energy of

33 Ibid., pp. 129-130.
Ataturk. President Ataturk then began the propaganda for the new alphabet six weeks later. Lecturing at a blackboard set up in the Sarayıburn Park in Istanbul, he opened his campaign as a national school teacher to demonstrate to the people how much easier it is to learn the Latin alphabet than the Osmanlica, the old Turkish alphabet.34

The next logical step in the reformation was the reduction of illiteracy. "In 1923, when the Republic was established, only one out of every ten people knew how to read and write."35 Ataturk established legislation opening Folk Schools to give instruction in reading and writing with the new characters of his alphabet. This instruction was given to both literate and illiterate adults. To appreciate the significance of this reform, it must be pointed out that resistance against language reform had been strong for centuries. The reform had waited this long because of the human tendency to regard as sacred not only the words but indeed the very letters of holy writ. "Turkish, unfortunately, had been written since the Middle Ages with Arabic characters, which had been adopted, although ill-adapted to Turkish phonetics, because the Turks had first come under the influence of Islam."36 It is reported that "approximately 60 per cent of the people still cannot read or write."37 However, it must be understood that much of this illiteracy occurs among the peasants in the outlying farms of the country. Most of these people have not had access to the 20,000 Folk Schools which are located in the cities and villages across Turkey. It must be remembered

34 Ibid., p. 130.
that today Turkey is four fifths rural and agricultural and that most of this population is scattered across the country and for the most part out of touch with city life and urban institutions.

Ataturk also developed several schools of higher education. The old Istanbul school became the Turk University by the reorganization of what had been an Oriental, Islami institution with some European features. At Ankara, the Gazi Higher Normal School was opened and at the same time the Higher Agricultural School began its teaching and research work. Ataturk also established the Faculty of Language, History, and Geography in Ankara. He also transferred two other important schools from Istanbul to Ankara—the War College which is comparable to our West Point and the Civil Service School. Both institutions had long existed at Istanbul but the value of having them at the new capital seemed especially significant to Ataturk.39

Ataturk recognized at the beginning that life-long religious influences would be the most significant retarding factors in the reform movement. The national religion was that of Mohammedanism with all its Oriental restrictions. These Oriental doctrines of Islami formed the very root of resistance to Ataturk's whole secularization process.

In his annual address March 1, 1924, President Ataturk emphasized the necessity for completing immediately the separation of church and state in the same fashion as his predecessors of the West. The Assembly complied with his wish and immediately voted the abolition of the

38 Ibid., p. 4.
Kalifate (office of Supreme Religious Authority) and the exiling of all members of the Osmanli Dynasty. Another act abolished all religious schools and established a unified school system under a ministry of public instruction. Finally, the courts which had adjudicated under religious rule were abolished.

Continuing the plan of gradual evolution, the Assembly waited four years before they amended the Constitution (1928) striking out the clause stating that the religion of the Turkish State was Islam. This marks the beginning of religious independence for the new Republic. Today many religions abound in the country. This same amendment to the Constitution removed the commitment of the Assembly to the application of religious laws and the requirement of swearing in the name of Allah as one takes an official oath. For the last, affirmations on one's honor were substituted. Sometimes these are stated, "I vow on my honor as a Turk."40

Evidence of the breakdown in religion's hold on the masses is shown by the erection of the first statue of President Ataturk on October 3, 1926, in the park in Istanbul. To comprehend the significance of this, one must recall the strict Islamic doctrines against the creation or use of images, even if worship is not involved.

The next stage in the secularization process appeared in 1926 when the Assembly passed a series of new codes aimed at modernizing and Westernizing many of the out-moded religious codes extending back several centuries. Most of the country's legal process had long been

40 Ibid., p. 128.
controlled by Islami tradition and interpretations and was ill-adapted
to modern life. However, the brakes to progress applied by religion had
been too strong to permit doing much about the situation until 1926. The new secular laws were not passed until a special commission could examine the outstanding Western codes in the light of their applicability to Turkish conditions. "The Grand National Assembly adopted the Civil Code based on the Swiss Civil Code, the Debts Law based on the Swiss Law, the Penal Code based on the Italian Penal Code, and the Commercial Code based on the German Commercial Code." The adoption of the Swiss Civil Code freed marriage, divorce and inheritance from Islamic laws.

Other reform measures, perhaps less revolutionary in the reformation, but nevertheless significant in Ataturk's drive toward his goal, were the change to the international clock and to the international calendar. These reforms occurred in 1925. "Now that Turks were beginning to carry on their own affairs with the rest of humanity, instead of through foreigners, it behooved them thus to standardize their behavior." The adoption of the international clock occurred on December 26, 1925. Formerly the day had begun at sunset. Mosques and priests continued to employ timepieces so regulated, since the religious schedule was so ordered, but publicly displayed clocks were set by those in the corresponding time zone in Europe. Even more important in the avoidance

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\[l_1\] Ibid., p. 107.
\[l_2\] Ibid., pp. 107-108.
\[l_3\] Ibid., pp. 134-135.
\[l_4\] In the beginning, mosques carried two clocks, one for sacred and one for secular time. Many people at this time carried two watches; one showing the time of prayer and the other the time at which the train was expected.
of confusion was the adoption of the international calendar. The Ottomans had begun to use a modified calendar, partly lunar and partly solar, in an attempt to coordinate methods of dating with those of the West. The complete reform, however, awaited the action of Ataturk.45.

The adoption, in 1931, of the metric system of weights and measures completed the change to the European methods of measuring and reckoning. However, the weights and measures were more difficult to change. It required almost three years for the final completion of the reform. "A few merchants tried to take advantage of the transitory confusion to increase prices, but that was curbed at once by the acumen of customers and the action of police. It was not long until most of the populace could think metrically."46

Another reform intimately affecting the lives of the people was the enactment on June 21, 1934 of a law requiring the adoption and use of family names which had disappeared under the influence of Islam centuries before. One can imagine the confusion of having each person in a country possess only one name—a given name. Thus a small village might contain several people all with the same given name.47 In a society which was growing in complexity, Ataturk realized that the situation had become intolerable. One of the first measures adopted to remedy this situation, which was referred to earlier in this chapter, was undertaken by the Grand National Assembly on November 24, 1934, when they voted to bestow upon the President the surname, Ataturk. Kemal Ataturk, in turn,

45 Ibid.
46 Ibid., p. 135.
47 A school teacher in Turkey at this time conducting a class of 53 boys found seven with the first name of Mehmet. Having no other way to distinguish them, he solved the problem by designating each pupil by number. The result was that their classmates called them by number and even remembered them by number in many instances.
selected the names of some of his closest colleagues. The task of choosing and registering names which did not duplicate within the town or the precinct was so great that the period for doing this had to be extended to June, 1936. "Strange as it may seem to Westerners, there were some who objected to even this measure as too revolutionary. Of course, Islamic ideology is at the root of this obstinacy."48

In addition to the numerous types of legislation enacted to implement President Ataturk's demands for progress, the Grand National Assembly took a long step forward on June 29, 1938, by granting amnesty to all the country's political prisoners and exiles. It is particularly noteworthy that this piece of legislation was passed less than five months before the death of President Ataturk.49 This achievement was perhaps the last important act in the brilliant career of their President. As a result of Ataturk's last important official act, "Turkey is the only country of the revolutionary world with no political prisoners or exiles."50 This granting of freedom to all political prisoners is very consistent with the emergent democracy of the nation; a democracy patterned after western traditions yet championed and adapted for Turkey by her leader, President Kemal Ataturk.

In the preceding discussion of a few of the major reforms achieved by Turkey under Ataturk, no mention has been made of the many direct economic improvements fostered by their first President. The chapter which follows will present several of the actual economic changes

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48 Ibid., p. 133.
49 President Kemal Ataturk died on November 10, 1938.
50 Ibid., p. 112.
established by Ataturk. This chapter, on the other hand, is designed to provide the reader with a clearer understanding of the magnitude of change necessary in all underdeveloped countries in order to provide the proper framework for that country's eventual economic development. This is especially true in those countries possessing strong economic, political and religious philosophy of the Orient. Not only must the strength of religious dominance be broken but economic and political motives must be directed into those channels which can facilitate that nation's progress. The above presentation should help to highlight the magnitude of the problem facing every middle-eastern nation whose customs, religion, and economic ambition have been heavily laden with the hand of ancient history. Probably their "chief" hope for rapid improvement lies in the discovery of a dynamic leader who has the proper insight into the complexities of the task of revamping an underdeveloped country; who has the ambition to carry out his convictions against overwhelming odds; and who has that rare quality of instilling confidence by all the people in him and his goal.

One basic principle derived from the experience of Turkey as enumerated above should be indelibly imprinted upon the memory of the West. If a country of the East is to succeed in removing its cloak of ancient tradition and thereby establish the base for economic advancement, the revolution must come from within. It is inconceivable that outside interference into centuries-old customs and religious dogmas could accomplish anything constructive. Kemal Ataturk gained the confidence of the people by leading an under-manned army against the foreign invader and thereby won for Turkey her independence and won for Ataturk the admiration of the people. The Turks were receptive to new ideas and new
reforms initiated by their trusted Gazi. He quickly chose the opportune time in the proper environment to push through his reforms. President Ataturk gained the trust of the people by valiant and heroic deeds for his country. No foreign nation could hope to establish itself in the same light of trust and confidence achieved by Ataturk. And yet this would have to be achieved by that nation if it would aspire to reform the ancient traditions of any of the under-developed countries of the world.

As indicated in later chapters, the United States in its approach to the whole foreign aid program has maintained strict adherence to the principle suggested in the preceding paragraph. The United States has been content to offer suggestions of an economic nature only, to allow most economic decisions to be finally made by the country itself, and then to provide the funds for the implementation of that decision.

In line with the principle of non-interference into the traditions of other countries, the famous political historian of Turkey and Islam, David Urquhart, tried to cure European and British diplomacy of the erroneous conceptions which they would have imposed upon Turkey. He recommended the admission of Turkey into the European system certain that, if constant interference in her affairs could be prevented, she would eventually become an exceedingly useful and prosperous element in the balance of power and would be able to play a splendid part in carrying on her historic role as the advance guard of Western knowledge in Asia. "Western diplomacy has never understood that the essence of the problem lies in producing a fundamental change in the relations
between Europe and Asia, by allowing a noble religion and valiant races to solve the vital questions of their existence, unmolested by external intrigues. 

**Effects of the Revolution on the Middle-East**

In the previous chapter reference was made to Turkey's influence in the Near East. It was even suggested that Turkey might possess the key to the balance of power in the world conflict between two opposing ideologies. At a time when several of the middle-eastern nations seemingly teeter on the brink of Communist absorption, perhaps the weight of Turkish influence can become the force required to swing the balance in favor of the democracies.

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CHAPTER III

ECONOMIC DEVELOPMENT BEFORE AMERICAN AID

The economy of Turkey which the new Republic inherited after the First World War had not undergone a major change for many centuries. Agriculture, which provided a living for approximately four fifths of the population, was the only significant industry. But its methods were so primitive and transportation so undeveloped that most of the peasants grew just enough to sustain themselves from their own produce. Because of this lack of surplus, in addition to poor transport facilities, the industry provided little trade in food crops except in very limited localities. Near the larger towns and cities where roads were somewhat improved, farm production from the immediately surrounding country was sufficient to feed the urban population.

Turkish manufacturing was almost entirely confined to handicrafts. But the Industrial Revolution in western Europe had virtually destroyed this source of livelihood. Any machine-made goods used in Turkey came from abroad. Exports to pay for them came from specialized agricultural products grown near the coast. Turkey's foreign exports at the time consisted mainly of tobacco, nuts, raisins, figs together with a few handicraft articles such as rugs for which machine industry could offer no adequate substitute.
Major Obstacles to Economic Development

Ataturk inherited more than simply an undeveloped, primitive economy when he accepted the responsibilities of revamping the nation. His inheritance included a veritable maze of religious dogmas with all the legal, political and economic restrictions and weaknesses which this religion imposed. In the previous chapter many of these problems were revealed. However, no attempt was made to show exactly how these religious attitudes created certain obstacles which tended to retard economic progress. A few of these restrictions which stood in the path of Ataturk as a result of the Islamic tradition are examined below.

In the realm of legal obstacles, we have already indicated in Chapter II that originally all law was holy law and that religious authorities dominated the courts. "The Sultan could create or wipe out property rights by decree and his permission might even be necessary for starting a business. Property owners and businessmen had little security against sudden changes in the law and its arbitrary administration. The Sultan made policy and gave orders. It was the duty of all other officials to obey them without discretion or discussion."1

The domination of the church in all political matters also stood as a barrier to economic change. Almost all political power, both legislative and executive, was concentrated in the Sultan. As a consequence of his political dominance, the whole social structure became a handicap to industrial development. Through the Sultan's influence, the four positions held in social esteem were those of the church official.

the government administrator, the soldier and the landowner. Since commerce and industry were secular in nature, they were regarded as degrading and were left almost completely to minorities—the Armenians, the Greeks and the Jews.\(^2\)

The political and economic weakness of Turkish religious authority exemplified itself early in the period of decline of the Ottoman Empire. As the industrial revolution poured manufactured goods into Turkey, exports from her agricultural and handicraft industries were unable to provide the necessary balance in foreign exchange. "As a nation, Turkey was living beyond her means, and incurred a long-continued adverse balance of trade. This deficit was financed by foreign loans, which the industrial nations extended partly for strategic reasons and partly to finance their profitable export trade. The luxurious and corrupt governing class was only too glad to accept them."\(^3\)

Additional evidence of economic weakness is found long before the decline of the Empire and existed until Ataturk's reformation. For centuries, the Sultans had granted foreign businessmen special privileges to induce them into business activity within Turkey. These special grants came to be known as "capitulations". Capitulations took various forms such as exemption of foreigners from taxes and tariff duties or reducing them both substantially. They also granted these foreign businessmen the right to be tried in special courts under foreign jurisdiction. Foreign individuals as well as governments were quick to take

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\(^2\) Ibid., pp. 3-4.

advantage of the economically weak Sultans. The many capitulations were carried to such lengths that Turkey eventually was prevented from raising its tariff duties without the consent of the foreign beneficiaries of these concessions. Foreign banks could operate in Turkey under the laws of their own countries and with practically no control by the Sultan. Even the Ottoman Bank was foreign-owned and it had exclusive power to issue currency and also to serve as depository and paymaster for the Turkish government.

In the 1870's, Turkey defaulted on its foreign debt. Immediately a group representing foreign bondholders began collecting certain revenues of the Turkish government for the benefit of the foreign bondholders. This same alien administration, known as the Council of Administration of the Ottoman Public Debt, began to exercise substantial powers of control over most of Turkey's finances. The external debt had risen as high as $716 million, of which France held 60 per cent, Germany 20 per cent and Britain 15 per cent. It was controlled by the 'Council of Administration of the Ottoman Public Debt,' of which the President was British or French, in alternate years. This Council collected the revenues for the debt service. Consequently its powers, exercised through taxation, extended into every corner of the Empire.

In addition to this alien manipulation of all major fiscal matters within Turkey, the corrupt and scheming Sultans encouraged foreigners to develop the basic industrial and transportation facilities in Turkey. Special concessions were established to attract foreign capital into the

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railroad, mining and public utility fields. *As the Government became weaker, the concessions became increasingly more favorable to the foreigners and more onerous to Turkey. Although through these concessions Turkey obtained some facilities which it would not have secured otherwise, the country paid a high price for them.*6

The loss of control over both their fiscal system and important segments of their industrial organization had serious after-effects for Turkey. In effect, foreign individuals and foreign governments assumed the responsibility for administering the government and directing the business activities in Turkey. The Turks were thus unable to develop skill or experience in organizing and administering the fiscal affairs of the government nor were they able to develop proficiency in organizing, managing and operating financial, commercial and industrial companies. Turkey was unable to mobilize investment funds and therefore could not develop a capital market. Furthermore, the Turks came to regard foreigners and foreign capital with a deep resentment, distrust and suspicion. Also when Ataturk began his revolutionary economic reforms in 1923, hostility toward all minority groups had grown almost to the breaking point since these groups were frequently associated with foreign enterprises and since they often enjoyed the privileges of the capitulations.7

By the end of the First World War, Turkey had become a country dominated by western business interests who had exploited the low standards of living of the population and exported their profits to the

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7 Ibid.
foreign investors. These same businessmen had for the most part inefficiently operated Turkey's mines, railroads and electric utilities. They had adopted the slow pace of the country itself in their operations and were reluctant to make any capital improvements. As a result of this gross exploitation throughout the entire economy, Turkey had become virtually bankrupt and seemed doomed to remain a sort of colony to the rest of the world. Her political, military, and economic "fortunes had fallen so low that she was often referred to by the sobriquet with which Czar Nicholas I had dubbed her in 1853—'The Sick Man of Europe.'n8

ATATURK'S ECONOMIC REFORMS

The reformation not only included the basic institutional changes such as those treated in the previous chapter, but a thorough revision of Turkey's relation with the world was instituted by Ataturk at the same time.

One of Ataturk's first economic moves was to abolish all capitulations. He terminated all foreign concessions giving preferential treatment to foreign interests and established unqualified control of the new Republic over its revenues and finances. In only one sector of foreign influence did Ataturk adopt a soft, mild attitude. His policies on foreign ownership of property reflected Ataturk's awareness of his country's need for foreign capital to finance its development. Even though there were a few instances of confiscation, Ataturk maintained an amazing amount of respect for the property rights of these foreign

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investors. "Over a period of years, foreign-owned railroads, mines and public utilities were bought out, payment being made in Turkish national bonds."9

Most of the small, private businesses in Turkey had been in the hands of the minorities—primarily the Greeks and Armenians—for many centuries. As indicated in Chapter II, the War of Independence with its accompanying spirit of Nationalism had done much to reduce in numbers and importance these groups. Furthermore, thousands of Greeks were returned to their own country by an exchange of populations arranged by the League of Nations after the Greco-Turkish war. Foreigners were, and still are, barred from almost all positions in industry and commerce, as well as in government. This is further evidence of the strong feeling of nationalism which Ataturk symbolized.

As a result of this foreign discrimination, a slender base of experience and private capital remained out of which a modern industrial state might grow. Undoubtedly this loss of the most efficient businessmen within the country who possessed the needed skills and experience for the creation of strong domestic industries has been chiefly responsible for the failure of private capitalism to flourish in Turkey. In recent times more tolerant policies as to foreign capital and foreign workers are gradually being adopted but there seems to be occasional reversion to discrimination.10

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10 Ibid.
1. The Era of Private Enterprise

For the first decade of Ataturk's regime, he maintained hope that domestic private enterprise would bring about the economic and industrial development which he so fervently desired. He made overtures toward the West in an attempt to attract foreign capital but these investors were reluctant to export their capital into a country undergoing such drastic revolutionary change.

Because of the lack of investment capital, Ataturk established on August 26, 1924, the first Turkish bank of the new Republic. This Bank of Commerce (Ish Bank) was designed not only to finance but also to help organize business undertakings. Ataturk, its founder, underwrote a substantial block of its shares and then sold many of them to others. It was thus set up as a privately owned company. Nevertheless, the bank had a semi-public character since the Board of Directors was composed of Deputies in the National Assembly in order to link its operations with governmental programs. Ataturk's intention at the time was to foster private enterprise as a national policy. "The charter and laws of the Ish Bank included among its functions general banking, the promotion of all kinds of works in the public interest, the production of any kind of goods, construction work and the establishment of companies for that purpose, all kinds of commercial and industrial transactions either for its own account or in partnership with private citizens or foreigners."\(^{11}\) It is significant that this institution was

the first real effort to provide commercial banking facilities in many communities throughout Turkey which had previously lacked this service.\textsuperscript{12}

Ataturk's second major move to enhance capital formation in Turkey was the establishment on April 19, 1925, of the Industrial and Mining Bank as a purely state bank. Its major purpose was not only to finance but also to manage state-owned industrial establishments. It is interesting to note that even though Ataturk expected the Ish Bank to encourage private enterprise, he was unwilling to depend entirely on this method for promoting industrial development. His intention to develop nationally owned enterprises as well is shown by his development of the Industrial and Mining Bank. Apparently Ataturk realized, in this early period, that state aid and initiative were obviously necessary in many cases. His intention in the 1920's was not to replace private undertakings with public ones but rather to supplement them with government aid. As an example of this mutual cooperation, the Industrial and Mining Bank was authorized to make private business loans and to participate in the ownership and management of commercial concerns which marketed its products.

As previously noted, agriculture was the only major industry in Turkey when the new Republic was initiated. Agriculture was then and is today the largest private enterprise industry in Turkey. Ataturk, who was keenly interested in agriculture, began early to develop this most important and basic industry. His attention first was directed to the special needs of the millions of peasants living on the farms.

\textsuperscript{12} Webster, \textit{Op. Cit.}, pp. 133-134.
throughout the country. He introduced a law on February 14, 1925, to provide instruction in agriculture for farm youths during the period of their military training. His most extensive law to aid agriculture, however, was passed on March 18, 1921, and was known as the Village Law. The provisions made each village a self-governing unit in order to provide a higher level of community existence. The attempt was thus made to provide considerable schooling in democracy. Since a large segment of the agricultural population lives in or near villages and since there are 40,000 such villages throughout the land, the Village Law was a grass-roots approach to the problem of lifting the peasant from the depths of despair and poverty and to increase his social consciousness.

One of Atatürk's most significant accomplishments in reducing the burden of poverty on the agricultural peasant was his abolition on February 17, 1925, of the tithe tax. Even though the government needed the revenue, it undertook to collect it more equitably. This tax had been levied generations before because it was the easiest to assess. But it was based on the most visible income of the people least able to pay— the peasants.  

Atatürk's next move was to improve agriculture itself. An Agricultural Bank had existed long before the Revolution but it had been limited to minor credit operations. He greatly enlarged the activities of this bank. The Agricultural Bank paid special attention to production and marketing of export staples. Agricultural exports were and still are vital in obtaining the foreign exchange necessary for buying capital.

13 Ibid., p. 135.
goods to build up industry. Moreover, in order to expand the service of the bank to farmers, legislation provided for the formation of agricultural credit cooperatives. "These organizations have been instrumental both in reducing the crushing load of usury to a burden of regulated interest payments, and in enhancing the centralization of Turkey's financial structure."

Industry's development did not proceed as rapidly as Ataturk had hoped; little actual advance in production was realized. In 1924, Ataturk had said, "Industrialization is one of our chief problems. We shall create every industry, great or small, for which there are in our land the economic conditions necessary to its work and development." Since private enterprise had produced very little results up to 1927, Ataturk made one last effort to supplement the system. A Law for the Assistance of Industry was passed by the Grand National Assembly in 1927. This law made state lands available to business concerns at low prices, reduced taxes and freight charges, and exempted from import duties many kinds of material needed by essential projects.

In further efforts to induce private development of industry, Ataturk released men with professional training from the army to take part in the new industrialization program. To improve the opportunities for these and other Turkish experts in the country's industrial organization, Ataturk placed restriction on the employment of foreigners in engineering and other specialized positions throughout the economy. His program backfired, however, when the men from the army gravitated to

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14 Ibid., p. 133.
secure positions in the rapidly expanding government agencies rather than to the more hazardous private undertakings. The foreign discrimination, on the other hand, which had aimed at insuring for Turkish professionals a place in industry resulted in the Turks being deprived of much foreign experience which would have been especially valuable at this stage.

Between 1927 and 1933 some progress was recorded primarily as a result of the Law for the Assistance of Industry. The number of industrial organizations which qualified for aid under this law increased from 312 to 1,473. Most of these additions were new businesses. Also during this same period the number of industrial workers increased from 17,000 to 62,000. Cotton yarn production increased 700% with woolen textiles increasing 500%. Sugar production showed the most sizeable gain from 5,000 tons in 1927 to 65,000 tons in 1933.16

2. The Decline of Private Enterprise

In spite of the gains recorded up to 1933, Ataturk was disappointed and impatient with the failure of private enterprise to perform as had been hoped. Results fell far short of expectations for several reasons. First, there was the acute shortage of investment funds in spite of those provided by the state through the various banking institutions which were established. Foreigners had refused to assist in the underwriting of Turkey's industrial future. Second, there was an almost complete lack of organizational, managerial and technical skill throughout the Republic. In the hasty attempt to build "Turkey for and by the

16 Ibid., p. 25.
Turks", Ataturk had too quickly removed foreign influence which could have supplied the much-needed foreign skill and experience in industrialization. Third, foreign industrial goods could come into Turkey under the favorable tariff rates which had been frozen by the Lausanne Treaty. Protection of infant industries, at least during the early part of this period, was thus impossible. Fourth, the Turkish economy depended heavily on agricultural and raw material production. These industries were hit early and hard by the world-wide depression when it was virtually impossible for any system of private enterprise to expand industrial facilities.

As production became paralyzed and unemployment grew with the world depression, private enterprise fell into considerable popular disfavor throughout the world. Managed or planned economies were being promoted in Italy, Germany, Russia and other countries.

In Turkey, many business failures occurred during this period of uncertainty. Undoubtedly some of these failures were caused by the reduction of Turkey's export market brought on by the depression. But probably the inexperience of business management and supervision together with the absence of well-organized distributive channels within the country were the most basic causes of their difficulties. Nevertheless, many Turks attributed their lack of rapid industrialization and their many business failures to the private enterprise system. Their attention and their preference more and more turned toward a system of state enterprise and a policy of what was eventually to be called etatism. Most of the Turkish leaders were former soldiers or government officials. Accustomed to authoritative plans of action, they were naturally impatient with the individually organized and uncontrolled activities of
private enterprise. Atatürk, as a former soldier, recognized the need for rapid industrial development to support national defense as well as to foster economic progress and decided on a new approach to achieve his goal.17

3. The Period of State Control—Estatism

The second main period of industrialization started around 1933 and for the most part extends to the present time. The shift in emphasis was to governmental initiative, ownership and planning. The state, according to the 1934 Report on Industrialization of the Ministry of the Interior, "assumed the task of creating the key industries which, during the first period, private capital and initiative had been unable to organize. Thenceforward, it renounced the liberal and somewhat faltering attitude of neutral protector which had characterized the previous stage, and resolutely embarked on a program of state nationalism."18

The Turks, however, still paid at least lip service to the doctrines of economic individualism. It is important to point out at this time that this is consistent with the age-old individualism of the Turkish people. The People's Party Program reflected the heritage of Turkish individualism in the early 1930's when it stated, "Although considering private work and activity a basic idea, it is one of our main principles to interest the state actively in matters where the general and vital interest of the nation are in question, especially in the economic field, in order to lead the nation and the country to prosperity in as short a time as possible."19

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Etatism, as already pointed out, did not express hostility or opposition to private enterprise. In fact it even expressed sympathy for private enterprise and in some fields offered aid. For example, the charter of the Sumer Bank, discussed later in this chapter, provides that half of its resources may be used to make loans to private undertakings, although this provision has been largely lost sight of in recent years. Also it must be clearly understood that the policy of etatism was not adopted for ideological reasons and had no particular ideological basis. As was emphasized by its advocates at the time, it was nationalistic in nature and neither communistic, socialistic nor capitalistic. It was not promoted by any special class nor was it designed to benefit any special group. Its purpose was entirely for national expediency in an effort to promote industrial progress in the most efficient and orderly manner possible. 20

The adoption of etatism was marked by the creation of the Sumer Bank in 1933. This was entirely a state-owned institution and served as a combined bank and holding company. Its function was to establish, finance and manage industrial units in certain fields designated in a five-year plan proclaimed early in 1934. Starting with a nominal capital of 20 million Turkish liras ($11 million) and a few textile and leather factories, this holding company had grown at the end of three successive five-year plans (1947) to a capital investment of 147 million Turkish liras ($81 million). It owned outright 54 main industrial establishments in textiles, paper, cellulose, leather, footwear, ceramics

and iron and steel industries. It also owned 20 subsidiary factories, 20 power stations, numerous repair shops and many wholesale stores. The Sumer Bank reported a total profit in 1947, after taxes, of approximately 25 million Turkish liras ($8.8 million) with most of the profit coming from the manufacture and distribution of textiles. A profit was also reported in iron and steel. The bank reported losses in cellulose, paper, leather, footwear and ceramics.

The inauguration of the Sumer Bank in 1933 coincided with important financial and technical aid from the Soviet Union. A comprehensive economic agreement was completed that year between the two countries with Russia making Turkey a loan, without interest, equivalent to $8 million (later increased to $18 million). Turkey, in turn, agreed to use the money for the purchase of Russian machinery and materials needed in the industrialization program. Russia set up the industrial establishments, worked out the plans for their operation, and supplied the technical assistance to train Turkish workmen in the operation of these industries. The loan was to be repaid by unspecified quantities of Turkish products; a strictly barter arrangement which by-passed problems of foreign exchange.

The most important part of the agreement was Russia's stipulation that she was to assist Turkey in the preparation of a five-year plan to carry out this industrial program. Thus Russian ideas and techniques of planning were transplanted to Turkey. Undoubtedly, Russia had hoped that through these initial developments, Turkey would eventually assume the Soviet goals and slogans of proletarian culture. Unfortunately for Russia, however, the Turks did not think it necessary to take over the whole apparatus of Marxist philosophy in order to operate the system
successfully.

The Turks thus began a succession of five-year plans patterned after the Russians. The first five-year plan which began in 1934, established as the chief agency for executing the plan, The Industrial and Mining Bank which had been reorganized and strengthened under the new name of Sumer Bank. The plan directed that the Sumer Bank would establish consumer goods industries of cotton, hemp, woolen goods, artificial silk, paper, glass and porcelain. Producer goods industries were to include the manufacture of iron, coke and coal by-products, and production of copper and sulphur. A chemical industry was also planned by the Sumer Bank.

In addition to the above industries, it is interesting to note the order of importance used by the Sumer Bank in choosing other businesses in which the bank would invest. First priority went to those industries using entirely home-produced materials and whose product was in relative short supply. Next were those businesses which used domestic surplus raw materials and whose final product was designed either for export or home market. Further down the list came those industries using imported materials in their product. This procedure obviously was intended to carry out a program of national self-sufficiency. They were clearly neglecting the foreign trade opportunities which eventually were recognized to be vital to Turkey's future industrial development. Her attempt at self-sufficiency could not be carried out because of the shortage of many commodities, largely industrial, which could not be produced at home.

The next major milestone in the development of industry by etatism was the establishment, on June 14, 1935, of the Eti Bank. Ataturk
wanted a separate institution to assume responsibility for the exploitation of Turkey's mineral resources and for the development of electric power. Etibank was directed not only to discover and exploit mineral resources, but to build power stations and transmission lines and to assume responsibility for the distribution of the resulting electric energy. Furthermore, it was to take over all existing power developments, buy and sell products within its field and to produce electrical equipment. Finally, it was to engage also in banking operations. Eti Bank was initiated with a capital of 20 million Turkish liras ($11 million) and was increased to 100 million liras in 1942 ($55 million). By 1946 its capital structure stood at 146 million TL or $80 million.

The most important single operation of Eti Bank is the Eregli Coal Mining Company which it expropriated from the former French and Italian owners in 1940. The company is developing an area 120 miles long and 12 miles wide along the Black Sea Coast in the North known as the Zonguldak coal fields. Chapter V deals with this development. Eti Bank also, through subsidiaries, sells and distributes coal, and operates iron, chrome, copper, lignite and sulphur mines. Lignite development will be discussed in Chapter VI. Eti Bank is also supervising the construction of the Sariyar Hydroelectric Power Project which is treated in Chapter VII. No private businesses have started within the field of Eti Bank since its establishment. However, a few independent mining companies under private Turkish ownership which existed before 1934 continue their operations on a small scale.
Other state institutions participated in the five-year programs. The Ministry of Agriculture established commercial companies, such as sawmills and dairy product plants. The Ministry of Transport and Communications operates freight and passenger boats.21

On April 27, 1935, the Assembly voted to purchase, over a 10 year period, several new ships for its merchant marine. Its fleet had been composed of second and third-hand vessels. The purpose of this new program by the Ministry of Transport and Communications was to increase Turkey's agricultural exports with ships more economical to operate. The new ships provided more comfort to the passengers thus encouraging tourist trade, provided faster dispatch of mail especially to ports not served by rail, and facilitated the movement of their agricultural surplus both to their domestic and foreign markets. In 1937 the Maritime Bank was founded as the financial institution of the shipping monopoly, port authorities and related industries.22

 Atatürk's Railways Development Program began soon after he took office. The Assembly passed a law committing the state to build and operate railways as one of the major policies of the reformation. Work began immediately on the Ankara—Sivas line which extended Eastward from Ankara toward the mountains. Subsequent lines were extended to Samsun in the Northeast, the Zonguldak coal fields in the North and to other strategic economic areas. The state purchased the Anatolian Railways (Berlin-to-Bagdad line) in another effort to strengthen transportation

facilities in the country. On June 1, 1935, the Turks bought out the last foreign interests when they purchased all the French and British lines within Turkey. The English owners accepted the entire purchase price in bonds payable over a 40 year period. This was the first time in history that a Turkish bond issue had been accepted without guarantee.

**Evaluation of Turkey's Etatism**

Substantial progress has been achieved in Turkey under Etatism. In view of the extreme backwardness of the country when Ataturk took over, one writer feels that the industrial advance has been remarkable. When one realizes that in 1923 Turkey was a primitive and mainly agricultural economy with an illiterate population and a traditional aversion to modern enterprise, the improvement is indeed striking. The stifling influence resulting from centuries of absolute and corrupt rule together with the heavy religious restraint mentioned earlier, certainly did not help to make matters easier for Ataturk and his colleagues. Etatism not only survived the depression of the thirties and a world war but improved agriculture and enlarged industrial capacity.

On the negative side, however, Turkey has recently begun to realize and experience the central problem of planned economies. With the close and coordinated control over the entire system afforded by the dynamic leadership of Ataturk, sufficient cooperation among all agencies was obtained to make the system function reasonably well. Ataturk's death in 1938, however, relaxed the dictatorial controls with the result that

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23 Ibid., p. 136.
the different agencies have drifted apart and centralized direction and coordination no longer prevails. "Except for the loose and general direction afforded by the Council of Ministers and the Grand National Assembly, the major agencies which carry out the policy in industry, mining, transportation, power and communications are not subject to any central agency which can make policy for all of them."\textsuperscript{25}

Perhaps one of the most serious consequences of etatism has been the lack of opportunity for creative activity of "individual" Turkish citizens. There has been little opportunity for the worker, the peasant, the small trader or the possessor of moderate savings to improve his economic position or to develop the desire to better himself. This lack of economic motivation probably stems from the lack of opportunity to advance through the application of work, ingenuity or capital to small businesses under personal control. Therefore, Turkey has lacked this essential prerequisite found necessary for progress of modern industrialization by the Western countries.

The reluctance to maintain private enterprise also prevented the development of a larger middle class which could have provided increased wealth and power throughout the entire economy. Instead, the deep gulf between the poverty-stricken peasant and the government officials was intensified by the recently-established power of this latter group under etatism.

As expressed earlier, many Turks felt that private enterprise had been tried during the early stages of the Republic and that it failed

to do the job adequately. Influential leaders came to believe that it was not adapted to Turkey and her industrial objectives. However, there is developing in Turkey today a theory that private enterprise was not given a fair trial. This new theory which is gaining popularity in Turkey will be discussed in a later chapter.

There is, of course, no question today but that a large amount of state initiative and supervision was necessary at the beginning. But this activity perhaps could have been confined to certain basic industries with private initiative being encouraged in the small and numerous consumer goods industries. This plan was, in fact, included in the first five-year plan but most private establishments were either discontinued, bought out, or taxed into eventual bankruptcy. The Prime Minister in announcing the first five-year plan said, "....it should be borne in mind that the foregoing key industries will give considerable stimulus to private initiative and capital."26

In looking back over the period of statism in the development of Turkey, it is becoming increasingly clear that despite some apparent intention to preserve a place for private enterprise under that program, no honest attempt was made to allow it to flourish. Therefore, private enterprise did not fail in Turkey; it was deliberately discouraged. A few of the major reasons for Turkey's reluctance to allow the development of private capitalism require separate consideration.

The Major Causes of Etatism

It was pointed out earlier in this chapter that one primary influence causing the hasty switch away from private capitalism was the impatience for rapid industrialization. The Turks were not content to await the slow, gradual process of growth which usually characterizes a young, underdeveloped private enterprise economy. Another reason was attributed to the wave of business failures in other countries which occurred in the early 1930's and the accompanying discontent voiced against capitalism by many countries of the world.

Brief reference has already been made to another major factor causing the abrupt reverse from private enterprise to Etatism, namely, the background of Turkey's leaders. Those who were instrumental in producing the Revolution and who were now directing the policies of the country came from the same families who had constituted the ruling class under the Ottoman Empire. They constituted a new and dynamic leadership but they still maintained many of the deep-rooted traditions of their ancestry. They had no intention of sharing their power or their economic supremacy. With military, official, and landowning backgrounds, they had never engaged in business or trade. Their prejudice against these menial occupations is expressed by their discrimination against the experts in these fields—the Greeks and Armenians. It is therefore understandable that these leaders would devote little attention to the encouragement of private business and finance. The extension of state machinery under the direction and control of this ruling group as afforded by etatism was the natural development in safeguarding the status of the ruling class and the political power of their party.
Probably of greater importance than the foregoing to the development of etatism is the strong influence provided by both Russia and Germany during this early period. As soon as Turkey agreed to accept Soviet ideas and to welcome technical assistance from the Russian experts, the environment necessary for private enterprise was destroyed. "The Russian program was formulated, not to foster and develop private industry, but the reverse." Fortunately for Turkey, their spirit of Nationalism allowed the entry of economic ideas but effectively screened out the political motives which accompanied them. Furthermore, the individualism of the Turk was reflected in the introduction of many purely Turkish ideas into the planning machinery imported from Russia. The Soviet influence, therefore, resulted in adopting for Turkey merely the form of state planning rather than the substance. The result is a hybrid system of state planning which lacks the strong-willed centralized direction characteristic of the Russian model.

Germany's motives for influencing Turkey along the lines of state domination and control may be classified more as "economic" rather than the "political" objectives of the Soviet Union. Germany had observed, for many decades, the fighting spirit, the strategic location and more importantly the unexploited resources of Turkey. Before Ataturk's rise to prominence, Turkish troops were trained by German generals at the invitation of the Sultan. This earlier Prussian tradition has continued in the Turkish army ever since. Germany instituted, prior to World War I,

27 Ibid., p. 38.
the project for an eventual Berlin to Bagdad railway. Many Turks went
to Germany for education and technical training. The new Republic's
greatly increased need for industrial technicians and scientists rein­
forced this educational migration. Until the outbreak of war in 1939,
influential Turks absorbed not only technical knowledge but the military
tradition and the assumption of state supremacy as well.

With Hitler's rise to power, Turkey assumed a new role in the plans
of the dictator. Germany was in great need of a supply of certain
mineral resources, especially chromium and copper, which Turkey could
supply. An agreement was worked out for Germany to supply the technical
aid needed for Turkey's industrialization in return for these valuable
mineral resources. In the 1930's, German experts swarmed over Turkey
as advisers, teachers, archaeologists, engineers, and agronomists. They
prospected for minerals, made studies of Turkey's transportation, commu­
nication, and power potential, and made many useful and profitable
suggestions.

Perhaps one of the most serious problems for Turkey during this
period of cooperation was Germany's reluctance to pay for her imports
except with German manufactures. This practice prevented Turkey's self­
sufficiency program from developing as planned. Since Germany's only
interest was in acquiring natural resources from Turkey, her foreign
trade policy imposed that very colonial status which Turkey had been
struggling to overcome. A Turkish official expressed their problem best
when he said, "The Germans were willing to help us in every possible way
—except to build factories for products which they could supply us from their own plants."28

This strong German influence upon Turkey was halted by the war before it could be extended much beyond the technical field. Nevertheless, there is no question but that Germany's close supervision of the Turkish economy during the beginning of etatism had much to do with its eventual development.29

During the second World War, Turkey's development continued as a result of expanded demand for her agricultural products by most of the countries at war. Furthermore, Turkey experienced an expansion in industry to meet international demand for all types of industrial goods. Internal improvements in income and employment contributed further to this economic development during the war years.

Turkey's Economic Situation at Time of Marshall Plan (1947)

The impression should not be drawn from the foregoing analysis of the many changes and improvements effected by Ataturk that the country has achieved the status of a modern industrial economy based upon a foundation of strong agricultural, communication and transportation industries. "Centuries of stagnation and rule from above, coupled with absence of encouragement of or opportunity for advancement in the arts of peace, cannot be outlived within a generation, however great the energies of the country's leadership."30

28 Ibid., p. 41
29 Ibid., pp. 35-41.
30 Ibid., p. 10.
The agricultural industry is especially backward. Most of the farms continue to use techniques and devices typical of the ancient era of the Roman Empire. The primitive wooden plow, the hand sickle for reaping the grain, and the heavy, inefficient oxcart with its huge spokeless wheel are all part of the rural scene in Turkey today.

The Point Four Program\(^{31}\) began, throughout all rural areas of Turkey, an extensive and intensive program of technical assistance in agriculture for the expressed purpose of improving farm production with the existing tools and implements. These methods were limited to instruction in crop rotation, prevention of soil erosion, use of natural fertilizer, and such simple techniques as replacing the wooden, blunt plowshare with a very inexpensive metal plowshare imported from abroad or handmade in the blacksmith shops of Turkey. After these initial beginnings, the Economic Cooperation Administration provided funds for the importation of many types of modern farm machinery, seeds, industrial fertilizer together with many farm trucks and tractors. This program is still being carried on through the Mutual Security Administration.

Perhaps even more primitive than the agricultural industry is that of transportation. When ECA began its program in 1947 in Turkey, there were no rural roads of consequence throughout the entire country. Those roads labeled as such on the map turned out to be mere trails when our foreign aid technicians arrived in Turkey. In inclement weather, transportation came to a virtual standstill awaiting the sun to dry out the deep ruts so that the roads could at least become passable again. The

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\(^{31}\) A program developed under the direction and control of the United States State Department to provide technical assistance, for the most part, to various underdeveloped countries of the world.
donkey replaced the oxcart as the chief means of transportation for agricultural surplus because it was the only all-weather device for getting food to the urban areas. With such primitive means of transportation, it is no surprise that agriculture was in such a deplorable state when American foreign aid began. And even today the experts report that vast improvements will be needed in Turkey before her agriculture and her transportation may be considered approaching modern standards.

Manufacturing industries as well as all the public utilities producing electricity, public transportation, and communication facilities were all in a similar state of inefficiency and backwardness at the time of the Marshall Plan. The coal and lignite industries were characterized by obsolete and worn out equipment, poor transport facilities in and near the mines and outmoded washing and loading machinery. There was in 1949, therefore, a huge task ahead of the foreign advisers to Turkey as well as a great opportunity to assist an aggressive country to push forward the enormous improvements already accomplished by her people in their struggle for a higher standard of living.

During and after World War II both Russian and German influence began to decline rapidly. Both nations were looked upon by the Turks, in their efforts to remain neutral, as potential enemies. It was readily apparent in 1949 that Turkey no longer intended to follow either the Russian or the German models of state domination. In her plans for the future, Turkey had more or less accepted the responsibility of depending entirely upon her own resources.
The United States recognized, in 1948, that Turkey still needed foreign help for industrial development. Furthermore, history had shown that she is inclined to seek ideas and patterns of behavior from the source from which foreign assistance may be obtained. Western ideas have had a great influence on the modern Turks in the form of their government, and in the laws and the political development of the country. But this foundation had not been built upon in the decade prior to the Marshall Plan. From the beginning of the Republic in 1923, the United States first isolated itself and then became more concerned with its own problems of depression and war.

Only recently has the United States turned its attention to the Turkish situation. The year 1947 started the extensive program of assistance which should have a great effect on the future course of development for Turkey and the rest of the free world.

In recent years, popular support of the principles embodied in etatism has apparently declined until Turkey now has in power a government pledged to encourage private enterprise and to reduce government participation in economic activity. Therefore, the time was ripe, at the beginning of the American foreign aid program, for the establishment of a new basis for a development plan throughout the Turkish economy. The Economic Cooperation Administration initiated this new basis for economic expansion in Turkey during 1948.
CHAPTER IV
THE NATURE OF THE PRESENT TURKISH ECONOMY

The Industrial Revolution has reached Turkey 150 to 200 years after its inception in the rest of the world. For several centuries prior to the establishment of the Republic in 1923, the Turkish economy remained virtually unchanged as a primitive agricultural economy. The little industry which was developed consisted largely of textile manufacturing, milling and handicrafts. In 1953 the country is still predominately agricultural. It has been estimated, for example, that more than sixty per cent of total national production consists of agricultural products. Although Turkey is gradually developing other industries, this percentage is not likely to change significantly for many years.¹

This chapter is primarily an analysis of the non-agricultural or industrial sector of the national economy. Of course, when national income statistics, labor statistics, and price indices are presented,

¹ Key, Kerim, Chief, Greek, Turkish, Iranian Section of Near East and African Division of the Office of International Trade in Washington, D.C. Much of the material in this chapter was supplied by Mr. Key. A native of Turkey, Mr. Key spent his formative years in the country. He was trained at Roberts College in Istanbul and has maintained an active interest in the changing Turkish economy. Mr. Key is considered by many people at the Mutual Security Agency in Washington as an expert in many phases of the present economy in Turkey. Much of the data included in this chapter was obtained in conferences held with Mr. Key in Washington in December 1952.
they will reflect the importance of Turkish agriculture. Furthermore, many of the industrial and commercial establishments derive their major source of revenue from agricultural commodities in one form or another. Nevertheless, separate treatment of Turkey's industry and commerce seems justified on the grounds that the present status of the country's industrialization program should provide the first essential in understanding Turkey's future potentialities for economic development at home as well as her foreign trade possibilities.

Type of Economic System

Generalizations in regard to the type of economic system in Turkey are difficult. Like other economic systems, the Turkish economy reflects unique political, social, religious and industrial forces. For this reason, the exact "type" of economic system prevailing in Turkey today is quite unlike that of any other country.

As indicated in the preceding chapter, the Turks use only one word to explain or to describe their present so-called economic "program". This word is etatism. It was conceived as a "program of state nationalism"; its chief aim was a more rapid development of economic self-sufficiency for the nation. Perhaps it should be emphasized that etatism is actually a policy to be followed rather than a "type of economic system" per se. Nevertheless, the word translated to English means statism and thus serves to highlight the importance of the government in all economic matters in Turkey. Further elaboration on the particular form which this statism has taken may be of some use in an explanation of the present type of Turkish system.
The foregoing chapter indicated the influence exerted by both Germany and Russia on the Turkish economy during the 1930's. Since Turkey had grown impatient with her rate of economic development, it was natural for her to turn to a form of statism characteristic of her two strongest neighbors—Germany and Russia. As pointed out earlier, Germany's influence became more significant because Turkey began to resent the "political" objectives which had accompanied economic aid from Russia. Germany had given the impression that her motives were confined entirely to "economic" considerations exercised entirely through greater international trade with Turkey. Hitler's rise to power stepped up Germany's influence on Turkey through greater encouragement of state development of raw materials, especially chromium and copper, which Germany needed. Apparently such "cooperation" through technical assistance teams sent to Turkey as well as those Turkish Nationals trained in Germany had appreciable influence on the form of statism adopted by Turkey. It would probably not be too far amiss to describe this form of statism undertaken in the early 1930's as state capitalism. State capitalism, of the German variety, took the form of rather severe dictatorial procedures. Very little influence was exerted by the people on the decisions made by the government. Apparently disapproval of any particular economic decision could not be registered by the voters through free elections in which those responsible would be removed from office. Under such a system of state capitalism, the economy is directed by individuals who owe allegiance only to their superiors who in turn rule with an iron hand. The will of the people or the desires of the individual are subjugated to the power of the state as exercised through the dictator.
Such a system of state capitalism does not characterize the Turkish economy today. However, it is true that many features of the above system were possessed by the Turkish system during the 1930's. Even though Ataturk supposedly reflected the will of the people, his economic decisions were probably seldom determined on the basis of what the voters would like. His decisions were apparently accepted, without question, in the same manner as were Hitler's. He had gained almost complete sovereignty and was rarely concerned about what the majority thought as long as the results would eventually reach his desired goals. For this reason, therefore, the type of system prevailing in Turkey during the 1930's had some similarity with that referred to above as state capitalism.

Many changes have taken place during the last decade which would seem to alter the characteristics of the present type of economic system in Turkey. Political democracy has been achieved to a greater extent than Ataturk could have anticipated. In the 1950 elections, for example, 88% of the eligible voters turned out to elect a new Democratic administration. This replaced the Republican administration which had been in power since the inception of the Republic in 1923. As indicated later in this chapter, the present elected officials are beginning to keep their ears tuned to the pulse of the "average" voter in view of maintaining their political supremacy. New labor legislation, greater aid to the farmers, greater emphasis on free enterprise, and more consideration for the private business man have all accompanied the new political developments.
The central position of the state in all economic matters, however, has not changed. Little evidence can be found to show that the government has actually retrenched in its ownership of property or its domination of the economic system. There is apparently very little more private capitalism developed throughout the economy than existed prior to the war. Also there are still instances where government decisions in the economic realm appear to be conceived along rather definite autocratic lines without due consideration for the wishes of the people.

In view of the recent regard for political consideration in many economic decisions, perhaps the system existing in 1953 would more closely approximate that of democratic socialism. Under such a system, the voting public apparently exerts a certain amount of influence on the decision-making groups within the state controlled industrial organizations. The power to make the majority of economic decisions, however, still rests with the government under such a system. There is simply a modification of this power exercised, rather indirectly, through the political influence of the voters.

The Nature of Private Business in Relation to Public Enterprise

It is impossible to determine exactly what portion of the total business of Turkey is in private hands and what portion is owned by the State. Some estimates, however, have been made in an attempt to determine, on the basis of percentages, the proportion of private businesses in relation to public enterprise. Some Turkish officials estimate that approximately sixty per cent of the total wealth is owned privately with forty per cent owned by the public. However, a few prominent Turkish business men have recently indicated the exact reversal of these
percentages with sixty per cent of total wealth in the hands of govern-
ment and forty per cent privately owned. Frequently a fifty-fifty ratio
as a practical compromise is used when such a distinction is needed in
Turkey.2

As indicated in the previous chapter, the attitude of both the
Turkish government and public opinion toward private enterprise has
undergone some rather significant changes recently. The government has
pledged its efforts toward the encouraging of private capital to assume
an increasingly important role in the economy of the country. The
areas, however, of possible development have not as yet been clearly
defined. Little concrete evidence exists, so far, which can be used to
appraise the difference between the announced policy of the government
and the actual application of this policy.

At the present time in Turkey, industrial production consists
mainly of light industries such as textiles, paper, leather and shoes,
food processing, tobacco, and chemicals. The principal heavy industries,
on which the state has put determined but not completely successful
emphasis, consist of some of those just mentioned (e.g. textiles and
chemicals) in addition to iron and steel, metal working, cement, building
materials, and mining. The greater part of these latter undertakings
are state-owned and were begun under successive five-year plans of indus-
trialization launched by Ataturk in the 1930's. The main objective of
these plans was the rapid industrialization of Turkey as the way to
national self-sufficiency. "The industrial plant is widely dispersed

2 Ibid.
since the location of particular industries and factories was often
determined less by such economic factors as the availability of power
or the accessibility of markets than by military, political and social
considerations. 3

In contrast to the United States, almost all manufacturing operations
in Turkey are conducted on a small scale even among the state-owned en­
terprises. There are practically no corporations or joint stock companies
which are a chief characteristic of the United States. Probably the
major reason for the small size of business units is the extreme
scarcity of investment capital. In the past, expansion of businesses
by private enterprise has been discouraged by the absence of a clearly
understood economic policy on the part of the government. Entrepreneurs
have hesitated to expand their operations for fear that state-owned
plants would force them out of business by unfair competition or perhaps
even expropriate their holdings. High profits during the second World
War helped to stimulate some growth in private companies as well as the
creation of some new private businesses. Prior to this time, however,
the expansion had been insignificant.

For the most part, except for a few state-owned plants which have
some rather costly imported machinery of the most modern type, industrial
plants are seriously under-equipped. Also, in both state and private
industry, the problem of proper maintenance of machinery and equipment
has become rather critical. Inadequate skill by managerial and super­
visory personnel, insufficient trained technicians and mechanics, and

3 Barker, James M., The Economy of Turkey (Washington, D.C.
a general lack of technical "know-how" have all tended to compound this problem. 4

Even though an exact breakdown between private and public enterprises cannot be made at this time, a recent (1951) Census of Business and Manufacturing was conducted by the Division of Price and Industry Statistics of the Central Statistical Office of Turkey and the results seem to provide a little clearer picture of the extent of private or government domination throughout various Turkish industries. One major conclusion can be drawn from this study at the outset. In practically every single industry studied, the government competes side by side with private businesses. Naturally the extent of this competition is stronger in some industries than in others. But nevertheless it does exist to a larger or smaller degree throughout the entire industrial framework.

Table 1 lists the major groups of manufacturing industries operating in Turkey and shows the number of working people in private establishments as compared with state-owned plants. This table serves, in some degree, to differentiate those manufacturing industries which are largely state-dominated. For example, it is noted that in the textile industry, more than half of the total workers in the entire industry are employed by the government mills. The pulp and paper industry has more than five times as many workers employed by government mills than employed by the private establishments. The chemical industry is another state-dominated industry which employs more than half of the total employees in the whole

4 Key, Op. Cit.
### Table 1

Number Employed in Manufacturing, by Industry and Type of Employer and Amount of Payrolls, Turkey, 1950

<table>
<thead>
<tr>
<th>Industry</th>
<th>Owners &amp; Families</th>
<th>Small Pvt. Companies</th>
<th>Large Pvt. Companies</th>
<th>State Owned Companies</th>
<th>Total</th>
<th>PAYROLL (In millions of lira)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Families</td>
<td>Companies</td>
<td>Companies</td>
<td>Companies</td>
<td>Total</td>
<td>TL 239.7</td>
</tr>
<tr>
<td>Food</td>
<td>10,720</td>
<td>20,730</td>
<td>14,730</td>
<td>1,883</td>
<td>48,063</td>
<td>38.2</td>
</tr>
<tr>
<td>Beverages</td>
<td>460</td>
<td>930</td>
<td>19</td>
<td>1,627</td>
<td>3,036</td>
<td>3.3</td>
</tr>
<tr>
<td>Tobacco</td>
<td>30</td>
<td>10,430</td>
<td>12,614</td>
<td>2,790</td>
<td>25,894</td>
<td>19.5</td>
</tr>
<tr>
<td>Textile Mills</td>
<td>3,040</td>
<td>8,220</td>
<td>17,322</td>
<td>30,124</td>
<td>58,706</td>
<td>67.6</td>
</tr>
<tr>
<td>Apparel</td>
<td>32,020</td>
<td>25,770</td>
<td>181</td>
<td>1,578</td>
<td>59,519</td>
<td>13.0</td>
</tr>
<tr>
<td>Wood</td>
<td>6,020</td>
<td>6,180</td>
<td>1,515</td>
<td>1,445</td>
<td>14,160</td>
<td>5.7</td>
</tr>
<tr>
<td>Furniture</td>
<td>1,180</td>
<td>2,120</td>
<td>523</td>
<td>3,823</td>
<td>4,321</td>
<td>2.5</td>
</tr>
<tr>
<td>Pulp &amp; Paper</td>
<td>20</td>
<td>100</td>
<td>75</td>
<td>1,126</td>
<td>1,321</td>
<td>6.0</td>
</tr>
<tr>
<td>Printing</td>
<td>760</td>
<td>1,510</td>
<td>1,202</td>
<td>62</td>
<td>3,564</td>
<td>4.3</td>
</tr>
<tr>
<td>Leather</td>
<td>4,390</td>
<td>2,580</td>
<td>796</td>
<td>7,766</td>
<td></td>
<td>2.4</td>
</tr>
<tr>
<td>Rubber</td>
<td>230</td>
<td>290</td>
<td>4,116</td>
<td>215</td>
<td>4,851</td>
<td>5.3</td>
</tr>
<tr>
<td>Chemical</td>
<td>800</td>
<td>1,910</td>
<td>5,477</td>
<td>9,387</td>
<td>17,574</td>
<td>26.6</td>
</tr>
<tr>
<td>Stone, clay, glass</td>
<td>1,610</td>
<td>4,160</td>
<td>4,850</td>
<td>966</td>
<td>11,586</td>
<td>10.9</td>
</tr>
<tr>
<td>Primary metals</td>
<td>650</td>
<td>1,220</td>
<td>893</td>
<td>4,055</td>
<td>6,818</td>
<td>12.6</td>
</tr>
<tr>
<td>Fabricated metals</td>
<td>13,140</td>
<td>11,260</td>
<td>1,805</td>
<td>2,969</td>
<td>29,174</td>
<td>16.1</td>
</tr>
<tr>
<td>Mach.&amp; appliances</td>
<td>2,850</td>
<td>3,280</td>
<td>429</td>
<td>377</td>
<td>6,936</td>
<td>2.9</td>
</tr>
<tr>
<td>Transport equip.</td>
<td>2,730</td>
<td>3,140</td>
<td>565</td>
<td>6,135</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Misc.</td>
<td>1,340</td>
<td>1,140</td>
<td>108</td>
<td>2,888</td>
<td></td>
<td>1.1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>81,990</strong></td>
<td><strong>105,000</strong></td>
<td><strong>67,550</strong></td>
<td><strong>57,601</strong></td>
<td><strong>312,144</strong></td>
<td><strong>TL 239.7</strong></td>
</tr>
</tbody>
</table>

* Employees of Owner & Family Establishments.

Source: Foreign Service Dispatch to Department of State, Washington, D.C. from American Embassy, Ankara, Ref. 00A13; 00Q19; 00Q19, dated June 23, 1952. Unclassified. p. 11.
industry. Finally, the government employs almost twice as many workers, for the production of primary metals, as the private companies.5

Table 2 gives the actual number of establishments in each of the major manufacturing groups. It also provides the approximate equipment value, the value of raw materials used, and the value of the total production in each of these industries. Unfortunately, it is not broken down into categories for private and for public operations as in Table 1. Such a breakdown could provide a clearer picture as to the extent of domination of total production and total capital investment between the private and public sectors of the whole manufacturing field. Nevertheless, some light can be shed on this question if reference is made to Table 1. For example, it is significant that of the four industries shown in Table 1 to be predominately state-owned (on the basis of workers employed), all of them together control the bulk of the total capital equipment of the entire manufacturing field shown. More specifically, the Textile, Pulp and Paper, Chemical and Primary Metals industries control approximately five-eighths of the capital equipment of all the major manufacturing industries included in the study. These four industries also turn out more than one-third of the total production

5 It should be pointed out that the non-manufacturing industrial activities are overwhelmingly government-owned, if not exclusively owned by the public. Such industries as transportation, communication, power, storage, and mining are almost entirely provided by government enterprise. More specifically, the government provides railroad and shipping facilities, harbor and port facilities, grain storage and warehouse facilities, telephone, telegraph and radio services, electric power (largely local governments) and almost all of the mining such as coal, lignite, chrome, sulphur and iron. Steel production is also the exclusive domain of the government.
Table 2

Number of Manufacturing Establishments, by Size, and the Value of Capital, Raw Materials, and Production, by Industry, Turkey, 1950

<table>
<thead>
<tr>
<th>Industry</th>
<th>SIZE OF ESTABLISHMENT</th>
<th>VALUE (Millions of Lira)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SMALL</td>
<td>LARGE</td>
</tr>
<tr>
<td>Food</td>
<td>10,060</td>
<td>696</td>
</tr>
<tr>
<td>Beverages</td>
<td>450</td>
<td>7</td>
</tr>
<tr>
<td>Tobacco</td>
<td>70</td>
<td>18</td>
</tr>
<tr>
<td>Textile Mills</td>
<td>3,000</td>
<td>364</td>
</tr>
<tr>
<td>Apparel</td>
<td>32,050</td>
<td>6</td>
</tr>
<tr>
<td>Wood</td>
<td>5,630</td>
<td>194</td>
</tr>
<tr>
<td>Furniture</td>
<td>1,100</td>
<td>8</td>
</tr>
<tr>
<td>Pulp &amp; Paper</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>Printing</td>
<td>660</td>
<td>43</td>
</tr>
<tr>
<td>Leather</td>
<td>4,180</td>
<td>35</td>
</tr>
<tr>
<td>Rubber</td>
<td>220</td>
<td>47</td>
</tr>
<tr>
<td>Chemicals</td>
<td>830</td>
<td>198</td>
</tr>
<tr>
<td>Stone,clay,glass</td>
<td>1,580</td>
<td>55</td>
</tr>
<tr>
<td>Primary metals</td>
<td>600</td>
<td>38</td>
</tr>
<tr>
<td>Fabricated metals</td>
<td>12,320</td>
<td>65</td>
</tr>
<tr>
<td>Mach.&amp;appliances</td>
<td>2,610</td>
<td>24</td>
</tr>
<tr>
<td>Transport equip.</td>
<td>2,180</td>
<td>12</td>
</tr>
<tr>
<td>Misc.</td>
<td>1,150</td>
<td>37</td>
</tr>
<tr>
<td>TOTAL</td>
<td>79,210</td>
<td>1,852</td>
</tr>
</tbody>
</table>

Source: Foreign Service Dispatch to Department of State, Washington, D.C. from American Embassy, Ankara, Ref. 00A13; 00Q19; 00Q19, dated June 23, 1952. Unclassified. p. 10.
value and consume more than a quarter of all raw materials used throughout all the major manufacturing industries in Turkey.\(^6\)

**The Marketing System**

"All but highly developed countries suffer in varying degrees from inadequate facilities for transportation, warehouse and storage, standardization, and market and price information."\(^7\) As a result of such insufficiency, markets are likely to be glutted in certain regions and severe shortages frequently develop in others. Wide price variation generally accompanies such extremes. This description characterizes Turkish marketing rather well. An integrated national market, as such, simply does not exist. Literally thousands of separate or localized markets operate across the country. Even if Turkey had adequate physical facilities, lack of accurate market and price information would

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\(^6\) The material included in the foregoing tables, as mentioned earlier, was compiled from the General Census of Business and Manufacturing taken in May and June of 1951. Although these data are subject to many changes and should be considered as "approximations" at best; nevertheless, they comprise the most complete information released to date by the Turkish government. Turkey is just beginning the task of developing methods and procedures for acquiring reliable statistical information in all phases of activity throughout the economy. This is entirely a new venture for the Turkish people.

In this particular project, many difficulties were encountered. The inaccessibility of many of the areas covered provided a serious handicap. Very limited financial resources also stood in the way of obtaining more detailed and accurate information. But perhaps the most important problem of all was the "atavistic suspicion" of the persons interviewed. The gathering of statistical information, as viewed by the average Turk, is the prelude to the eventual collection of new and/or higher taxes. These serious handicaps notwithstanding, the results of this census are considered noteworthy by trained observers. (Foreign Service Dispatch to Department of State, Washington, D.C., from the American Embassy, Ankara, Ref. 00A13; 00Q19; 00Q19, dated June 23, 1952. Unclassified, p. 9.)

probably cause continued loss of potential export and domestic markets. Turkey has been in the past, and is presently, experiencing serious exploitation of uninformed buyers and sellers, an excessive marketing cost, and increasing difficulties brought on by faulty production decisions. As long as Turkish industry remains small with thousands of production units widely scattered and poorly informed, little hope can be held for the development of a well-integrated, national marketing system.  

That portion of the marketing system in Turkey which operates in the private sector—as distinguished from that portion of the marketing process heavily influenced by the government—may be divided into three rather general stages, in respect to the flow of goods. First, the "large wholesaler" operates primarily in the large cities. Generally speaking, he is a very wealthy private merchant who does most of the country's private importing and exporting of industrial and agricultural commodities. Through long experience in the field of domestic and foreign trade, he has developed an especial adroitness for discovering the best sources of supply of both domestic and foreign commodities. In the domestic market, he frequently buys from the government-owned industries with the same degree of skill and shrewdness as he does from private suppliers. Having been in business for many years in a particular locality, these wealthy merchants frequently have established close friendships with important people in the large government industry and can frequently obtain preferential treatment from such manufacturing concerns. Most of the large city "retailers", therefore, patronize this

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8 Ibid.
large city wholesaler who, generally speaking, is their major source of supply.

The second stage in the marketing procedure of private business may be found in the smaller towns where the "local wholesaler" operates. This wholesaler often doubles as the major retailer in the town as well. The local wholesaler buys most of his merchandise in the large cities and frequently obtains his goods from the "large wholesaler" mentioned in the preceding paragraph. He also has established contacts with both private and government plants in his locality as well as in the large cities. This local wholesaler can therefore purchase a wide assortment of commodities from the production of foreign manufacturers, domestic government-owned plants or from the local and city private manufacturers. He will sometimes maintain a wholesale warehouse in the small town where he operates a retail store. More often, however, the two will be combined in one building with variable prices to retail and wholesale purchasers.

The small village merchant completes the final stage of the private Turkish marketing system. He operates principally in the villages. His main source of supply, generally speaking, is the "local wholesaler" found in the near-by town. This village merchant then sells his merchandise to the people living in his own village, those living in near-by villages, as well as to the peasants who sometimes live on their farms (see chapter V). The primitive state of rural and village roads usually forces the village merchant to transport all of his merchandise from the near-by town by ox-cart or more often on the back of a donkey.

Throughout the entire marketing procedure outlined above, a very unique and interesting practice has grown up for centuries which creates
a spirit of informality difficult for the "foreigner" to comprehend. Most of these business men operating throughout the various stages of marketing have been doing business with each other for years and a feeling of trust and respect has grown up between both parties involved in almost every business transaction. More often than not, there is no signing of papers nor any "formal" record made of sales, prices, or method of payment. Very informal credit memoranda are made in those cases where cash is not used.

By such casual business procedure, the transactions tax can be avoided or evaded since no actual record of such business transactions is kept. Such practices, however, also prevent the compilation of statistical information in regard to sales, income, profits, etc. It would seem to be an extremely difficult task to change such centuries-old procedures in order to improve the efficiency of tax collections and to record accurate statistical information as well. Nevertheless, such a development is necessary if Turkey is to carry out an effective industrialization program and expand her domestic and foreign markets.9

The influence of the government in the marketing process may be illustrated by the techniques used in the marketing of textiles, one of the government's major manufacturing industries. "The Sumer Bank exercises a sales monopoly of all textile products in Turkey—covering state mills, private mills and imports."10 Sales are made largely through its own chain of "wholesale" stores. However, some retail sales

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9 Key, Op. Cit.
are made directly from the plants. Wholesale and retail prices are fixed by the state. The prices for both domestic and imported material are calculated by adding a fixed mark-up on the cost of the imports. Based on this procedure, prices of textiles have recently been very high because of the high cost of imports which in turn resulted from the world-wide shortage of textile goods during and after World War II. Most of the textile imports, incidentally, have been coming from the United States.

There is no way to determine the actual cost and the profits of state mills since these mills have complicated overhead charges, provide social welfare benefits, are taxed by a maze of different types of taxes, and no one seems to know what part of these costs is included in quoted figures made by the plant officials. "Such data as are publicly available indicate that the profits of Sumer Bank from manufacturing, purchasing and selling textile products have averaged from 40 to 50 million liras a year."^11

All output of private textile mills must be sold to the state at prices designated by the latter. These prices are calculated on a cost-plus percentage basis for each type of product at the private mill. It is probable that such procedure will not produce the efficiency of operation desired since the costs, whatever they might be, would serve as the base for determining price. Under this arrangement, profits would always be forthcoming regardless of efficiency.

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^11 At current rates of exchange, this would amount to between $4 and 18 million dollars. (Ibid.)
"It is even more difficult to ascertain actual costs and profits in private plants than in governmental ones, since because of the omnipresent tax-gatherer, financial figures are closely guarded secrets. Every effort is made to avoid the display of any wealth which the state might take away." Nevertheless, evidence seems to point to the fact that private mills tend to operate at lower costs than the government-operated ones. In a series of six comparisons, each involving two plants, one private and the other government, located in different sections across the country, approximately 150-160 administrative staff members served the government plants while 20 to 30 directed the private concerns. In addition, the state plants provided a long list of employees' benefits not duplicated by the private establishments. The textile industry, in general, operates under "both high costs and large profits which limit the market for textiles. Probably 17 million out of Turkey's 20 million inhabitants are insufficiently clothed."

Extent of Competition Between Private and State Enterprise

As indicated above, in some of those manufacturing concerns in which the government plays an important role, competition is eliminated by marketing the total production from both private and state establishments through one marketing channel—State Wholesale Chains. However, in the majority of the manufacturing industries shown in Tables 1 and 2, privately produced goods flow into the open market with the products of the government plants. Therefore, it is clear that competition does

12 Ibid., p. 116.
13 Ibid.
exist, in one form or another, between the goods from private and those from public plants. There seems to be no evidence, however, to show that one or the other has any particular advantage in the market place. As a matter of fact, frequently similar products such as shoes, actually do not really compete at all; they are, in effect, literally sold in different markets. For example, the Sumer Bank's shoes are considered by many to be of high quality and, generally speaking, are sold to the middle and high income clientelle. However, certain private cobblers turn out highly specialized hand-made shoes of an even higher quality and price for sale to a very select group. At the same time, there are many other private cobblers who produce a very low-grade shoe at a much lower price for the peasant trade. There is little competition, therefore, among these three types of shoes since they are each priced for a different market.

It sometimes does happen that the government-produced goods, when actually competing with private products, can be offered at a lower price. This usually results from the occasional government pricing policies which are designed to "subsidize" the consumer. For example, the price of coal produced by the government mines in Zonguldak has been sold domestically at a price considerably below the cost of production. When such a pricing policy is adopted, the government manufacturing enterprises can obtain materials at a very low cost. Whenever such advantage rests with government manufacturing concerns exclusively it does become more difficult for private concerns to operate. However, frequently the private establishments find ways to obtain these raw materials at or near the price paid by the public manufacturing plants. Also, if such an advantage of lower cost materials is possessed by
public plants, their arbitrary pricing policies in turn remove any competitive advantage. As an example, the mark-up on certain government-produced goods or those sold through government marketing channels seems quite excessive. Data furnished by a private mill owner indicated that a certain grade of cotton fabric in large demand was bought from private mills at about 20 cents a yard and then sold directly to the public for 40 cents. Such high profit margins are not uncommon in many public establishments.¹⁴ Any cost advantage, in respect to competition, is quickly removed when excessive mark-ups appear on the government-produced goods.

There are other ways in which private establishments can hold their own with the government plants. In spite of certain cost advantages enumerated above which occasionally accrue to the public manufacturing concerns, the private manufacturers can frequently offset this cost advantage by operating their own plants on a lower cost basis through less overhead expenses, fewer administrative personnel, cheaper production labor,¹⁵ and higher efficiency. Furthermore, there is no well-defined, clearly established "market-price" for particular commodities throughout the various sections of the country and frequently "knowledge" of price levels from alternative sources of supply is not widespread. High transportation costs sometimes afford a natural advantage for the small local producer selling his products in the immediately surrounding area.

And finally, competition for markets is substantially lessened by the devices of habit and custom. Many private business establishments

¹⁴ Ibid., p. 115.
¹⁵ Labor's wages are generally lower in private establishments. Following analysis in this chapter will elaborate this fact.
have been doing business for several generations. They are patronized by people who have transacted business with them or perhaps with their father for a long period of years. These private business men are familiar with the market and have established certain elements of "prestige" throughout the community. These establishments seldom have to worry about a lower price by the government industry or by other private competitors for that matter.16

The Nature of the Turkish Labor Market

The total labor force of Turkey can be determined only as an approximation since statistics on the subject are not very reliable. The closest estimate available concerning the total number of people employed is between seven and eight million of a population which presently exceeds twenty-one million. In 1945 the census listed those actively engaged in farming at 5,809,698. With an estimated 17% increase in population since 1945, this figure is likely to be almost one million more in 1953. On the other hand, the number of working people in industry in places of 500 population and over, was found by the 1950 Census of Business and Manufacturing to be 312,144 (See Table 1). However, the Minister of Labor declared in a press interview on March 19, 1952, that the number of industrial workers engaged in enterprises subject to the regulations of the Turkish Labor Code was 427,361 at the end of 1951. On the basis of these figures, it would seem that approximately one-seventeenth of the total working population is engaged in manufacturing with sixteen-seventeenths working in agricultural activities. In other words, approx-

16 Key, Op. Cit.
approximately 6 per cent of those gainfully employed in Turkey work in manufacturing industries with 94 per cent serving agriculture.

"There are no statistics available on unemployment in Turkey. Conjectures which have been made on the number of unemployed range from 100,000 to 1,500,000, but responsible Government and Union officials refuse even to venture informed estimates on their number."17 A very sketchy census of informed Turkish opinion obtained on a strictly informal basis revealed that between 150,000 and 200,000 urban industrial workers, white collar employees, and professional groups were unemployed in 1952.18

Unemployment problems in Turkey are expected to become more serious when the full effects of the spiralling mechanization of agriculture is felt throughout the economy.19 The rapidly rising quantities of agricultural equipment will tend to displace a large percentage of the agricultural population currently "under-employed" as distinguished from

18 Unemployment here is defined as those individuals who, seeking employment, are willing and capable of performing specific duties on a "permanent" basis. This definition excludes agricultural workers who belong to rural communities where they temporarily leave their families, their shelter, and their reserves of food for occasional migration to urban and/or industrial centers to earn additional cash income. Since their loyalties are to their families and their villages, they should not be included in estimates of urban unemployment. These itinerant farm hands or sub-marginal farmers leave the farm during the "off" season and there are probably no incentives which could be strong enough to induce them to sever their village ties to settle permanently in urban or industrial centers. Their specific term of oral contract when they accept a temporary job in industry is that whether their work is completed or not, they will be free to leave their employment to return to their village in a matter of days, weeks or months, depending on the agricultural calendar. (Ibid.)
19 The number of agricultural tractors in use in Turkey has increased from 2,000 in 1948 to 23,944 on January 1, 1952, with 12,000 new tractors on order for delivery in 1952 (5,000 are already in Turkey). Ibid.
those unemployed. When these unskilled agricultural workers invade industrial areas, they swell the labor pools to the point of overflow. This affects, adversely, the prevailing wage structures.\(^{20}\) Probably the only real solution to this potential unemployment problem lies in the increased rate of Turkish industrialization. Unfortunately, however, in view of "existing potentialities, Turkey is still in the embryonic stage" of industrialization.\(^{21}\)

There is no labor market organization in Turkey per se. However, the Turkish government, conscious of its responsibilities, has attempted to assure the development and effective use of its rapidly expanding manpower by the establishment of a National Employment Service at Ankara. This organization was established in 1946 through the Department of Labor and there are now 30 branch offices throughout Turkey. The National Employment Service performs such functions as placement, occupational analysis, industrial services, labor-market informational programs, and employment counseling. A good start has been made but, because interviewing and classification techniques have not yet been sufficiently developed for adequate effectiveness, applicants are not always selected for the job on the basis of qualification.

A total of 28,074 placements were reportedly effected throughout Turkey in 1951. Of this number, 23,395 went to industry and commerce

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\(^{20}\) This is especially the case in mining (coal, iron, lignite, etc.) and in manufacturing areas where the employers favor the itinerant at the expense of the regular worker because the former accepts low wages and does not know or care about the meaning of grievance committees. Many semi-skilled operators are often replaced by these migratory workers and this has become a rather serious employment problem. \textit{Ibid.}, p. 5.

\(^{21}\) \textit{Ibid.}
and 4,775 placements were registered in agriculture. For purposes of comparison, the year 1950 shows 20,410 total placements with 18,714 recorded in industry and commerce and only 1,696 placed in agriculture. This increase appears rather impressive and yet it must be remembered that Turkey has a total population of 21,000,000 with an estimated labor force of only seven or eight million workers. There is surely a great amount of progress yet to be achieved by the National Employment Service.

In turning to the status of wages throughout Turkey, one finds considerable variation among manufacturing establishments. Also there is some indication that, in general, the government plants have somewhat higher wage structures than private establishments. The government establishments have their wages set by civil service. Occasionally these wages, which are very low by United States standards, are supplemented with informal gifts of coal, clothes, food, etc., when surpluses appear throughout other government operations. Private manufacturing establishments of course do not provide this type of supplement but sometimes do pay cash bonuses. Such a complexity of wage payments makes it almost impossible to determine actual wage rates. Furthermore, the private establishments frequently overstate their wage structures whenever government observers or statisticians attempt to develop wage data for various types of plants. In spite of these difficulties, Table 3 is submitted as an attempt to show, approximately, the variation in wages between various industries throughout Turkey.

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22 Key, Op. Cit.
Table 3 shows that enterprises engaged primarily in "commerce" pay the highest average wage scales throughout the industrial field (see last item in the table). This fact seems to result because the most important position currently held by private enterprise in Turkey is found in the field of trade—domestic and foreign. Here is found the powerful and wealthy Turkish merchant who performs a large proportion of the total amount of exporting and importing throughout Turkey. His profits are frequently high and his wage structures can conceivably be higher than in other enterprises. Perhaps the relative low wages found in the mining industries could be partly explained by the use of migratory farm labor at wages considerably below the cost of full-time labor in that industry. Such cheap "seasonal" labor tends to pull down the average wage for the industry and forces urban workers into other employment or perhaps into the unemployment pool. Lack of strong labor union activities in mining industries permits this low average wage for miners.

The data in Table 4 show the average daily wages for men, women and children in selected cities and towns throughout Turkey. It is

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23 Tables 3 and 4 were developed in the absence of any authoritative figures prepared on wages either by the Central Statistical Office, the Ministry of Labor, the Labor Placement Office or the Social Insurance Institute. The Research Division of the Ministry of Labor, in order to fill a vital need, compiled the data for these tables in 1951 from questionnaires voluntarily filed by about 4,000 "employers" in 1950. Even though the results are occasionally used as references by the government, it should be made clear that they are not considered sufficiently valid by the government to be released publicly under their auspices. Owing to the superficial nature and character of the survey coupled with the fact that some employers may have conceivably "padded" their estimates, it appears probable that many of the questionnaires reported higher wages than those actually prevailing in 1950. In spite of these shortcomings, these data are submitted in the absence of any more reliable statistics in the hopes that they will provide at least a general idea relative to wage structures in Turkey. (Foreign Service Dispatch, Op. Cit., pp. 11-12.)
Table 3

Average Daily Wage in Manufacturing, by Industry,
Turkey, 1950

<table>
<thead>
<tr>
<th>Industry</th>
<th>Average Daily Wage (In Lira)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>3.08</td>
</tr>
<tr>
<td>Textile</td>
<td>3.35</td>
</tr>
<tr>
<td>Tobacco-food industry</td>
<td>3.55</td>
</tr>
<tr>
<td>Building</td>
<td>3.58</td>
</tr>
<tr>
<td>Stone cutting</td>
<td>3.75</td>
</tr>
<tr>
<td>Chemical</td>
<td>4.16</td>
</tr>
<tr>
<td>Utilities</td>
<td>4.30</td>
</tr>
<tr>
<td>Leather—shoes—rubber</td>
<td>4.30</td>
</tr>
<tr>
<td>Communications</td>
<td>4.31</td>
</tr>
<tr>
<td>Clothing</td>
<td>4.69</td>
</tr>
<tr>
<td>Paper—printing</td>
<td>4.85</td>
</tr>
<tr>
<td>Minor office workers</td>
<td>4.79</td>
</tr>
<tr>
<td>Wood works</td>
<td>4.99</td>
</tr>
<tr>
<td>Machinists</td>
<td>5.32</td>
</tr>
<tr>
<td>Iron</td>
<td>5.40</td>
</tr>
<tr>
<td>Workers in commercial enterprises</td>
<td>5.93</td>
</tr>
</tbody>
</table>

* 1 Turkish Lira = 35.34 cents (U.S.)

interesting to note that the cities of Ankara, Istanbul, and Izmir are consistently among the highest in average daily wages for men, women, and children of all the cities indicated. Moreover, since these same cities are very important industrial centers, they quite naturally tend to hire the greatest number of workers. Table 4, however, reveals more important facts about the nature of the Turkish economy than simply the highest wages paid and the largest number of workers hired by various cities of Turkey. An average wage for all the cities indicated in Table 4 has been computed and shows the combined average wage for men, women, and children as follows:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Average Daily Wage (Turkish Lira)</th>
<th>Average Daily Wage (Dollar Equivalent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>4.42</td>
<td>$1.56</td>
</tr>
<tr>
<td>Women</td>
<td>3.13</td>
<td>1.11</td>
</tr>
<tr>
<td>Children</td>
<td>2.12</td>
<td>.75</td>
</tr>
</tbody>
</table>

As indicated in the figures above, if a husband, wife, and their child worked each day for the average wage indicated for each, their daily wage for the entire family would be TL 9.67. If twenty-four working days per month were assumed, this would provide the family of three with TL 232.08 total wages per month. An interesting comparison can now be made with a survey made by the labor unions in Turkey in 1951. The officials of the union claimed that the bare minimum monthly wage requirement to support a family of three was TL 350. This same group of union officials claimed that an adequate minimum wage level, on the other hand, would be TL 400. Perhaps this provides some small measure of the actual living standards of the so-called "average" worker in
Table 4

The Number and Average Daily Wage of Men, Women, and Children,  
by Selected City, Turkey, 1950  
(Wages in Lira)

<table>
<thead>
<tr>
<th>City</th>
<th>MEN</th>
<th>WOMEN</th>
<th>CHILDREN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Wage</td>
<td>Number</td>
</tr>
<tr>
<td>Ankara</td>
<td>11,731</td>
<td>4.61</td>
<td>1,234</td>
</tr>
<tr>
<td>Antalya</td>
<td>1,862</td>
<td>3.02</td>
<td>8</td>
</tr>
<tr>
<td>Aydin</td>
<td>4,708</td>
<td>4.10</td>
<td>1,133</td>
</tr>
<tr>
<td>Balikesir</td>
<td>3,267</td>
<td>3.67</td>
<td>432</td>
</tr>
<tr>
<td>Bursa</td>
<td>4,545</td>
<td>3.78</td>
<td>3,679</td>
</tr>
<tr>
<td>Diyarbakir</td>
<td>9,710</td>
<td>3.32</td>
<td>44</td>
</tr>
<tr>
<td>Edirne</td>
<td>2,245</td>
<td>3.41</td>
<td>133</td>
</tr>
<tr>
<td>Erzurum</td>
<td>3,704</td>
<td>3.27</td>
<td>13</td>
</tr>
<tr>
<td>Eskisehir</td>
<td>12,635</td>
<td>3.86</td>
<td>863</td>
</tr>
<tr>
<td>Gaziantep</td>
<td>2,799</td>
<td>3.02</td>
<td>50</td>
</tr>
<tr>
<td>Istanbul</td>
<td>39,986</td>
<td>5.21</td>
<td>13,931</td>
</tr>
<tr>
<td>Izmir</td>
<td>8,792</td>
<td>4.62</td>
<td>8,546</td>
</tr>
<tr>
<td>Kayseri</td>
<td>5,662</td>
<td>3.87</td>
<td>392</td>
</tr>
<tr>
<td>Kocaeli</td>
<td>5,786</td>
<td>4.49</td>
<td>868</td>
</tr>
<tr>
<td>Konya</td>
<td>4,434</td>
<td>3.92</td>
<td>632</td>
</tr>
<tr>
<td>Samsun</td>
<td>8,080</td>
<td>4.29</td>
<td>2,130</td>
</tr>
<tr>
<td>Seyhan</td>
<td>6,187</td>
<td>4.72</td>
<td>1,466</td>
</tr>
<tr>
<td>Sivas</td>
<td>7,183</td>
<td>4.13</td>
<td>691</td>
</tr>
<tr>
<td>Zonguldak</td>
<td>1,684</td>
<td>4.82</td>
<td>67</td>
</tr>
<tr>
<td>Total</td>
<td>150,713</td>
<td>xxxx</td>
<td>36,312</td>
</tr>
</tbody>
</table>

The Turkish Labor Union Movement

"The Turkish labor movement, which appears to be singularly free of communistic influence, is steadily gaining momentum but union officials claim that future progress will be measured in inches rather than registered in strides until a draft bill which would recognize to labor the right to strike is finally enacted." The right to strike in Turkey is at present forbidden by law. Labor organizations, however, were legalized throughout Turkey in 1945 by the Trade Union Law. Not having the right to strike, these trade unions apply no direct pressure on management but simply discuss their grievances and problems around the conference table. The Trade Union Law of 1945 provides that only those who work in the particular trade may join the union. Such a provision excludes skilled or specially-trained labor leaders unless they obtain their training incidental to their primary job within the trade.

One interesting characteristic of the Turkish labor movement is the tendency for the successful labor union members to take sides with the government in most controversies. It has been the Government, for the most part, which has supported the union's demands for long overdue wage increases. The press also has been giving extensive and sympathetic coverage to labor developments. Politicians are observing the mounting strength of labor and in an endeavor to court the unions, they have been increasingly lavish in their public praise of the working man. At the

24 Ibid., p. 16.
25 Ibid., p. 2.
present time, however, they cautiously avoid such controversial subjects as minimum wage and strike legislation.

Labor union cooperation with the government seems to have paid off in the form of a number of laws, resolutions, decrees and regulations passed by the government during the past few years for the benefit of the workers. It is expected that minimum wage and strike laws will eventually be forthcoming. The Old Age Insurance Law was passed by the Grand National Assembly on June 6, 1949 and became effective on April 1, 1950. A law was passed in 1951 providing payment of half wages to workers on weekly rest days and public holidays. A law provides for payments to labor for industrial accidents, professional diseases and maternity benefits. Another law provides for the regulating of wages and for contracts between employers and employees in the printing and journalistic trades. In June of 1952, a law was passed authorizing the extension of loans to workers of the Turkish State Railways to finance home building.

Probably the greatest single problem facing the whole labor union movement at the present time is that of declining real income among all labor groups throughout Turkey. The national wholesale price index has risen fivefold since 1938 while wages as estimated by union officials have risen only 150 per cent during the same period. The Supreme Arbitration Council for the settlement of labor-management disputes which is, with one exception, exclusively composed of government officials, has ruled in about 60 per cent of the cases, involving wage increases, in favor of labor. However, it has invariably reduced, often very drastically, the percentages demanded by labor. Consequently, even though the unions are actively and constantly demanding higher wages, union
officials are very pessimistic concerning the success of such demands until labor is given the right by law to enforce such demands through the right to strike.

Price and Income Analysis

General monetary stability is one of the first essentials to Turkey's program of industrialization, expansion of production and the development of foreign trade. "Adoption of restrictive monetary policies" could have "electrifying effects both in curbing internal inflation and lessening external balance of payments deficits."\(^{26}\) Turkey has experienced monetary "instability" beginning about the time of the outbreak of World War II. Both her money supply and prices have increased approximately five times since 1939 and most of the increase occurred during the war years (1939-1944), when retail prices rose from 101 to 459 (1938 = 100).

The major cause for both the wartime and postwar inflation is found in the expansion of personal and business incomes without a corresponding increase in the supply of goods and services available for domestic consumption. "The expansion in incomes was accompanied by a parallel increase in the money supply which rose from TL 307 million to TL 1,534 million in the period from the beginning of 1939 to the end of 1949."\(^{27}\) Approximately half of the money supply in Turkey is in the form of currency—primarily Central Bank notes—and the other half is composed

\(^{26}\) From an article entitled, "The Welfare State and Foreign Aid", *Economic Intelligence*, Economic Research Department, Chamber of Commerce of the United States, Washington, D.C. Number 54, January 1953, p. 3.

of demand deposits in banks. The increase from 1939 to 1949 was evenly divided between currency and deposits.

Table 5 shows the change which took place in the money supply for two recent periods. The major portion of the current inflation took place during the war years. Table 5 indicates that the Central Bank's credit expansion was very substantial during this period. Also the commercial banks contributed significantly to the expansion of the total money supply during this inflationary period. It would seem, therefore, that internal financial policies were far more important as a cause for the inflation than the flow of gold and foreign exchange into Turkey.

During the war period, the Turkish government undertook a very ambitious program of domestic capital investment in manufacturing and mining which was financed largely through borrowing by the Central Bank. This heavy investment expenditure came at a time when defense expenditures were taking a great portion of the nation's resources. Heavy foreign demands for goods, as a result of the war, intensified the problem by creating for Turkey a substantial export surplus.

Since 1946 the substantial import surplus (Chapter XI) would seem to be deflationary. However, internal monetary and fiscal policies have more than offset this effect and the total money supply has continued to grow. Large deficits by the government and by state enterprises in the postwar period have been largely financed by new credit expansion by the Central Bank as well as the commercial banks to the extent of TL 234.2 million and TL 150.1 million, respectively. "The result might well have been a continuation of the sharp price rises that occurred
### Table 5

Change in Money Supply by Source, Turkey, 1939-1946 and 1947-1949

(Millions of Lira)

<table>
<thead>
<tr>
<th>Source</th>
<th>1939-1946</th>
<th>1947-1949</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net monetized gold and foreign exchange</td>
<td>+ 245.1</td>
<td>- 233.7</td>
</tr>
<tr>
<td>Central Bank</td>
<td>+ 570.3</td>
<td>+ 214.2</td>
</tr>
<tr>
<td>Commercial Banks</td>
<td>+ 311.8</td>
<td>+ 99.0</td>
</tr>
<tr>
<td>Ministry of Finance</td>
<td>+ 12.4</td>
<td>+ 8.2</td>
</tr>
<tr>
<td>Total</td>
<td>+ 1,139.6</td>
<td>+ 87.7</td>
</tr>
</tbody>
</table>

Many of the foreign aid projects such as hydroelectric power, coal, lignite, and iron ore which are being carried on by joint American-Turkish funds, are still in the construction stages. When the present industrialization and improvement program is completed, perhaps in 1955 or 1956, some relief might be expected from present high price levels. Furthermore, Turkey has undertaken a rather ambitious program, starting in about 1950, to import increased quantities of capital equipment which is aimed at replacing much of the present outmoded and obsolete manufacturing machinery. This increasing importation of capital was initiated by Turkey quite apart from the American aid program. When and if this new capital is properly assimilated into the industrial sector of the economy, further relief from high prices might be expected.

It is encouraging to note that no significant changes in the overall price level have been recorded since the beginning of 1950. Table 6 shows the wholesale price index for 1950, 1951 and the first quarter of 1952. Some upward price movement was experienced in 1951 but this pressure was not prolonged. Perhaps the cost of living index computed for the capital city of Ankara, also shown in Table 6, offers some help in understanding the more recent price levels in Turkey. No particularly alarming changes are indicated in this index. The following "yearly" averages were computed by the National Account Unit of the Central Statistical Office from the data shown in Table 6 to show the change in

28 Ibid., p. 209.
Table 6

The Turkish Wholesale Price Index and the City of Ankara Cost of Living Index, by Month, 1950 and 1951 and First Quarter of 1952

(1938 = 100%)

<table>
<thead>
<tr>
<th>Year</th>
<th>Wholesale Price Index</th>
<th>Change from Same Month of Preceding Year</th>
<th>Cost of Living Index (City of Ankara)</th>
<th>Change from Same Month of Preceding Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>January</td>
<td>482%</td>
<td>- 5%</td>
<td>358%</td>
<td>7%</td>
</tr>
<tr>
<td>February</td>
<td>482</td>
<td>- 7</td>
<td>362</td>
<td>4</td>
</tr>
<tr>
<td>March</td>
<td>469</td>
<td>-10</td>
<td>359</td>
<td>0</td>
</tr>
<tr>
<td>April</td>
<td>463</td>
<td>-11</td>
<td>357</td>
<td>- 1</td>
</tr>
<tr>
<td>May</td>
<td>442</td>
<td>-16</td>
<td>348</td>
<td>- 2</td>
</tr>
<tr>
<td>June</td>
<td>430</td>
<td>-16</td>
<td>341</td>
<td>- 5</td>
</tr>
<tr>
<td>July</td>
<td>420</td>
<td>-16</td>
<td>328</td>
<td>- 8</td>
</tr>
<tr>
<td>August</td>
<td>421</td>
<td>-15</td>
<td>322</td>
<td>- 9</td>
</tr>
<tr>
<td>September</td>
<td>435</td>
<td>-11</td>
<td>321</td>
<td>- 9</td>
</tr>
<tr>
<td>October</td>
<td>449</td>
<td>- 8</td>
<td>324</td>
<td>- 9</td>
</tr>
<tr>
<td>November</td>
<td>462</td>
<td>- 6</td>
<td>329</td>
<td>- 8</td>
</tr>
<tr>
<td>December</td>
<td>469</td>
<td>- 3</td>
<td>329</td>
<td>- 8</td>
</tr>
</tbody>
</table>

1951

| January  | 486                   | 1                                      | 334                                  | - 7                                     |
| February | 511                   | 6                                      | 339                                  | - 6                                     |
| March    | 517                   | 10                                     | 338                                  | - 6                                     |
| April    | 499                   | 8                                      | 337                                  | - 6                                     |
| May      | 487                   | 10                                     | 339                                  | - 3                                     |
| June     | 473                   | 10                                     | 335                                  | - 2                                     |
| July     | 457                   | 9                                      | 332                                  | 1                                       |
| August   | 445                   | 6                                      | 332                                  | 3                                       |
| September| 460                   | 6                                      | 332                                  | 3                                       |
| October  | 472                   | 5                                      | 334                                  | 3                                       |
| November | 484                   | 5                                      | 338                                  | 3                                       |
| December | 493                   | 5                                      | 342                                  | 4                                       |

1952

| January  | 493                   | 1                                      | 347                                  | 4                                       |
| February | 492                   | - 4                                    | 350                                  | 3                                       |
| March    | 484                   | - 6                                    | 351                                  | 4                                       |

Source: Foreign Service Dispatch to Department of State, Washington, D.C., from American Embassy, Ankara, Ref. 00A13; 00Q19; 00Q19, dated June 23, 1952. Unclassified. p. 15.
prices for 1950 and the first quarter of 1951 as compared with the corresponding period 1951 and the first quarter of 1952.

<table>
<thead>
<tr>
<th></th>
<th>1950-1951</th>
<th>1951-1952</th>
<th>Per cent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale Index</td>
<td>462</td>
<td>483</td>
<td>4.5</td>
</tr>
<tr>
<td>Cost of Living Index (Ankara)</td>
<td>339</td>
<td>338.6</td>
<td>negligible</td>
</tr>
</tbody>
</table>

National income data are included in Table 7. The most pronounced increases in national income from 1948 through 1951 appear in Agriculture, Manufacturing, and Commerce. Each of these sectors experienced increases of approximately 200 million Turkish lira during the four year period. Income from dwellings showed the smallest gain, on the other hand, with an increase of approximately TL 7 million. The income deficit, from international trade, fell slightly during the four year period.

No figures are available showing distribution of income among the various productive factors. Furthermore, no figures are given to show the income distribution according to salary or wage groups. However, the Central Statistical Office has developed population figures for villages and cities in order to determine "per capita" income throughout Turkey from 1938 through 1951. According to the estimates of this office, the population of Turkey was as follows:

<table>
<thead>
<tr>
<th>(In Thousands)</th>
<th>1938</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>In villages</td>
<td>12,930</td>
<td>15,040</td>
<td>15,352</td>
<td>15,667</td>
<td>15,975</td>
</tr>
<tr>
<td>In cities</td>
<td>4,086</td>
<td>5,035</td>
<td>5,153</td>
<td>5,268</td>
<td>5,390</td>
</tr>
<tr>
<td>Total Population</td>
<td>17,016</td>
<td>20,075</td>
<td>20,505</td>
<td>20,935</td>
<td>21,365</td>
</tr>
</tbody>
</table>

The national income per capita, therefore, would be as follows, according
## Table 7

**National Income Accounts by Source, Turkey,**

**Annually 1938, 1948–1951**

*(In Millions of Lira)*

<table>
<thead>
<tr>
<th>Source</th>
<th>1938</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>792.2</td>
<td>4,362.1</td>
<td>3,181.1</td>
<td>4,519.6</td>
<td>5,577.6</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>251.8</td>
<td>1,040.6</td>
<td>1,071.4</td>
<td>1,130.7</td>
<td>1,235.7</td>
</tr>
<tr>
<td>Transportation</td>
<td>90.6</td>
<td>377.9</td>
<td>386.9</td>
<td>416.3</td>
<td>449.2</td>
</tr>
<tr>
<td>Commerce</td>
<td>164.0</td>
<td>722.0</td>
<td>692.0</td>
<td>764.0</td>
<td>919.0</td>
</tr>
<tr>
<td>Banking &amp; Insurance</td>
<td>20.0</td>
<td>92.6</td>
<td>91.2</td>
<td>100.8</td>
<td>106.5</td>
</tr>
<tr>
<td>Government Services</td>
<td>157.1</td>
<td>833.8</td>
<td>824.6</td>
<td>896.0</td>
<td>909.2</td>
</tr>
<tr>
<td>Other Services</td>
<td>53.4</td>
<td>157.8</td>
<td>161.3</td>
<td>164.9</td>
<td>168.7</td>
</tr>
<tr>
<td>Dwellings</td>
<td>90.7</td>
<td>283.8</td>
<td>294.1</td>
<td>288.9</td>
<td>290.0</td>
</tr>
<tr>
<td><strong>TOTAL DOMESTIC INCOME</strong></td>
<td>1,619.8</td>
<td>7,870.0</td>
<td>7,005.0</td>
<td>8,281.2</td>
<td>9,655.9</td>
</tr>
<tr>
<td>Less Income Deficits</td>
<td>-13.7</td>
<td>-56.0</td>
<td>-54.7</td>
<td>-52.4</td>
<td>-48.9</td>
</tr>
<tr>
<td><strong>NATIONAL INCOME</strong></td>
<td>1,606.1</td>
<td>7,814.0</td>
<td>6,950.9</td>
<td>8,228.8</td>
<td>9,607.0</td>
</tr>
<tr>
<td>Add Indirect Taxes</td>
<td><strong>161.7</strong></td>
<td><strong>696.4</strong></td>
<td><strong>780.2</strong></td>
<td><strong>794.2</strong></td>
<td><strong>925.0</strong></td>
</tr>
<tr>
<td><strong>NET NATIONAL PRODUCT</strong></td>
<td>1,767.8</td>
<td>8,510.4</td>
<td>7,731.1</td>
<td>9,023.0</td>
<td>10,532.0</td>
</tr>
<tr>
<td>Add Depreciation</td>
<td><strong>90.0</strong></td>
<td><strong>350.0</strong></td>
<td><strong>370.0</strong></td>
<td><strong>380.0</strong></td>
<td><strong>420.0</strong></td>
</tr>
<tr>
<td><strong>GROSS NATIONAL PRODUCT</strong></td>
<td>1,857.8</td>
<td>8,860.4</td>
<td>8,101.1</td>
<td>9,403.0</td>
<td>10,952.0</td>
</tr>
</tbody>
</table>

The above analysis indicates the inadequate living standards of the people of Turkey. Even though the Gross National Product increased about 21 per cent between 1948 and 1951, it is suspected that most of this gain was due to greater money flow which has not enhanced the economic position of the majority of the Turkish population. Only the bare living essentials are within reach of the vast majority of wage earners. Domestically produced and imported goods are more plentiful than ever before but lack of purchasing power by the wage earner places them out of reach to all but the few.\(^2\)

The Need for Private Capital

The relatively low rate of capital formation has kept manufacturing in Turkey at an insignificant level when the potentialities of the country are considered. These potentialities stem from Turkey's great

\(^{29}\) Statistical data for Tables 6 and 7 together with the population and per capita income figures was developed by the newly created "National Account Unit", a division of the Central Statistical Office of the Turkish government. This new statistical unit has been working on recent international publications and recommendations concerning the method of compiling national income estimates. The above figures are simply summaries of the efforts of this group in 1952. While these statistics are crude and will undoubtedly be revised as the method of compiling and appraising return are developed, they are the latest and best available in Turkey at the present time. (Foreign Service Dispatch, Op. Cit., p. 13).
resources in agriculture and minerals, her freedom from labor strife, the energetic nature of her labor force as well as the abundance of labor, and the country's political stability.

The Turkish government has been actively seeking to create a favorable investment climate in order to attract substantial amounts of private foreign capital into Turkey. Thus far, however, little success in this program has been achieved. Up to 1953, foreign capital has been obtained largely through grant-in-aid funds from the Marshall Plan in addition to loans to the Turkish government from foreign governments.

In Turkey today, local capital requirements for both private agricultural and industrial investment are largely provided through the banking system. Most transactions are still largely carried on through the medium of cash rather than by checks. Financial institutions are few in number and their operations are in general too small for an effective industrialization program.

In the past Turkey has had no private banks whose principal function is long-term industrial investment. The government-owned institutions have functioned as combined government investing or lending agencies and management holding companies. These banks, the Sumer Bank and the Eti Bank, confine their operations to large government construction projects and to the maintenance of various government-owned manufacturing plants.

At the end of 1949, there were 42 commercial banks in the country operating a total of 566 branches, but with rather limited geographical coverage. These banks were owned by both foreign and local businessmen, a few were owned by the Turkish government. Total paid-in capital and
reserves of all these banks amounted to TL 592 million; their deposits were TL 986 million. The commercial banks of Turkey confine their loans primarily to commercial transactions. They frequently make private loans to finance commerce or trading operations but rarely lend capital for the production of goods. They have also been particularly active in financing foreign commerce. Private manufacturing firms, not engaged in foreign trade, get little assistance from these banks to meet their needs for working capital.

The demand for funds at current maximum interest rates, fixed by law at 8½ to 12 per cent, is vastly greater than the supply of funds. The unofficial money lending rates, on the other hand, have often been twice the legal maximum. Private banks have thus far been unable to attract private savings in sufficient volume to meet these demands. This has been due in part to inflation which tends to discourage savings deposits and in part to greater attractiveness of other investments which may yield 10 to 15 per cent compared to about 5 per cent paid on savings deposits by the banks. Perhaps, with an eventual increase in the level of income, the possible elimination of serious price inflation, together with greater promotional activities on the part of banks, substantial increase in the volume of savings in Turkey might take place.30

In Turkey, the practice of buying shares or other securities in private manufacturing companies is not customary. "A rudimentary securities exchange exists in Istanbul but trading on it is so small as to be insignificant."31 No method has yet been devised to concentrate large

31 Ibid., p. 23.
amounts of capital into private operations. Concentration has been accomplished, to some degree, by government enterprise only. Most private savings which are invested, up to the present time, have been used increasingly to buy real estate, particularly in the cities, and to erect large office or apartment buildings. Many of the private family or individual accumulations, therefore, have been unavailable for new manufacturing developments. "Since there is no established channel by which savings can flow into industrial investment (except through the hands of state enterprise), Turkey could not be benefited by the mere introduction of additional private capital from the outside. Such capital could not find a use."32

It has become increasingly clear, that before there can be anything approaching a capital market in Turkey, some way must be found to develop and popularize private share or bond holding. The great amount of governmental ownership of manufacturing concerns throughout the country has caused private capital to move either into real estate speculation or into hoardings. If private capital development is to be stimulated in the various fields of manufacturing, government domination in these fields will have to be reduced considerably during the years to come.33

One recent development seems to point up a mild degree of optimism concerning domestic private investment. In June of 1950, the Industrial Development Bank of Turkey became a legal entity. This bank represents an initial effort to adapt the techniques of private investment to

33 Ibid.
Turkish requirements and to build up a capital market in the country for the first time. The initial capital of about $4,500,000 was subscribed by a group of 18 private institutions including 13 banks (domestic and foreign). No shares in this Industrial Development Bank are owned by the Turkish government or by any of its agencies. In addition to its share capital, the Bank has at its disposal another $4,500,000 in the form of loans to be provided as needed by the Central Bank of Turkey.

The bank was established with the assistance of the International Bank for Reconstruction and Development which granted a loan of $9,000,000. This foreign exchange is being used for financing importations of capital equipment needed in those economic development projects approved for financing by the Industrial Development Bank. The guarantee agreement between the Turkish Republic and the International Bank for Reconstruction and Development on the loan of $9,000,000 was signed on October 19, 1950. Ratification of this agreement by the Grand National Assembly occurred early in 1951. By August 1952, the Bank had received 915 requests for loans of which 123 had been approved. These loans amounted to TL 52 million. Thus far, the credits granted were to the textile industry and to those industries manufacturing cement and building materials.34

Summary

Turkey's economic system today would probably be characterized by that type of system known as democratic socialism. There has been an increasing awareness, on the part of government officials, of the importance of the voting public throughout Turkey. By the same token, there

34 Key, Op. Cit.
seems to be evidence of definite influence exerted by the voters on the decisions made by the managers and directors of the various state controlled industrial organizations. In spite of the political influence exercised by the voter, however, the central position of the state in most economic matters has not changed. Little evidence exists to show that the government has retrenched in its ownership of property and its domination of the economic system even though various government officials have recently paid lip service to the need for greater development of free enterprise throughout Turkey.

Wages throughout the country today are very low by United States standards. It has been estimated that an average male worker in Turkey will average about $1.56 per day and that even if his wife and child are employed full time, the family's total income would fall short of an adequate minimum wage level. National income per capita throughout Turkey was estimated to be $141 in 1950 which further indicates the low average economic status of the Turk. Perhaps some encouragement can be obtained, however, from the fact that real income has not suffered from inflation as it has in some countries during the past two or three years. Turkey has recorded no significant change in the over-all price level since the beginning of 1950.

There is a great need for private capital in Turkey if free enterprise is to be developed throughout the country. Until recently there has been no mechanism for accumulating this capital with the result that most capital expansion could only come from government sources. The Industrial Development Bank, however, was set up recently to offer loans to private businesses and this is considered to be a step in the right direction. Similar organizations are needed in the future along with
the greater encouragement of private capital investment from abroad if Turkey's economic development is to expand significantly in the years to come.
CHAPTER V

AGRICULTURE—TURKEY'S BASIC INDUSTRY

"The greatest challenge facing Turkey today is to make fuller use of its agricultural manpower and resources by increasing productivity of both land and labor."¹ Turkey is still considered one of the underdeveloped countries of the world in spite of all the efforts of Atatürk. This backward condition is due primarily to the primitive state of her agriculture. In the majority of farms throughout the land, the peasants continue the ancient methods and the use of the archaic wooden instruments described in biblical history. Most of these farmers have hardly been aware of nor scarcely understood the significance of the industrial revolution in Turkey. The farmers' economic status certainly reflects very little of these industrial improvements. It is only the relatively small urban population that has benefited from the educational, political, and economic progress sponsored by Atatürk.

As indicated in the previous chapter, approximately 9¾ per cent of the gainfully employed in Turkey is engaged in agriculture.² Thus the peasant population not only forms the broad basis of the national economy, but also constitutes almost the whole of it. The Turkish farmer,

² A small percentage of this 9¼ per cent is not engaged directly in farming but works in the agricultural industry as their source of livelihood.
therefore, has become the most basic hope for Turkey's progress. The farmer feeds not only his family but the rest of the population as well. The farmer also supplies the overwhelming bulk of Turkish exports. He thus provides the foreign exchange necessary to purchase from other countries the manufactured consumer goods as well as the capital equipment needed for industry. Even though the burden of the heavily regressive tithe tax was removed from the peasant by Ataturk, the overworked farmer still pays the greater part of the taxes which have been employed to finance the industrialization program, the military and other governmental outlays.

In spite of the part played by the farmer in Turkey's recent economic improvement program, he has derived very little benefit from that program. The output of industry, which he supports, is so relatively small, especially in the goods he needs or can afford, that the farmer's position is approximately the same as it was centuries ago. Because of this situation, the Turkish peasant continues to lead a primitive existence unaware of the importance of the industrialization of Turkey.

It has become the concensus of American experts in Turkey today that her leaders have seriously underestimated the role that agriculture must play in economic development. In agriculture, the country has adequate manpower, sufficient skill and experience, ideal climate and rich soil, plus the opportunity to export surpluses to receptive foreign markets anxious to return manufactures in kind. It is felt by most technical

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3 Turkey imports very little food. The food that she does import is confined almost entirely to luxury goods imported for the small class of city dwellers with the necessary income to afford such luxuries.
advisers to Turkey that her reluctance to expand this industry which possesses the greatest comparative advantage over other industries, relegates her to a position of continued economic underdevelopment in the future. "Turkish agriculture is basic in every sense of the word; upon its fortunes and efficiency depend the welfare of the whole people and the opportunity of the nation to advance in wealth and power."

Turkey's Primitive Agriculture

Probably one of the most striking differences between farming in Turkey and in the United States lies in the location of the farmer relative to his farm. In Turkey, as you approach a village, you can see miles of landscape with cultivated fields but rarely can you find a single building on these farms. The Turkish farmer lives in the nearby village and journeys to the out-lying land for his livelihood. The land under cultivation in Turkey, therefore, is limited to that area immediately surrounding some 35,000 villages spread thinly over the country.

Expansion of agricultural land is "naturally" restricted by lack of roads and the "short daily 'cruising radius' of the oxcart, the donkey or of toiling women."

This somewhat strange custom of gregarious living no doubt stems from the centuries-old necessity of huddling together for protection from foreign invaders or domestic marauders. As a result of these narrowly confined producing areas, "only about 19 per cent" of Turkey's total acreage is "under cultivation or under tree or

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5 Ibid., p. 45.
Furthermore, since about "a third of this amount is held fallow each year, only about 11 per cent of the country is actually under crop." 7

The typical dwelling-place of the Turkish peasant is constructed from whatever available material may be at hand. With little regard for appearance or comfort, rough hewn or hand-sawed timber, unpainted of course, is used in the forested regions while mud bricks serve as the shelter for the peasant in the river valleys or on the steppes where timber is unavailable. These mud huts are identical, in both architecture and purpose, to those of the Hittites of Biblical times. Fuel for these homes "consists of briquettes of cow dung, collected during the summer and fall, molded and piled against the walls of the houses and into open spaces in the yards so that it will be at hand for the winter." 8

The villager's home often serves jointly as a stable for his farm animals and as shelter for several generations of the family all in a single room. The typical house has a dirt floor covered with straw matting and a locally woven rug. Around the walls, in place of furniture, are rolls and bundles of personal possessions which serve as seats. The typical diet consists mainly of cereals and milk with perhaps fruit and olive oil served in those areas where they can be produced. Yoghurt (curdled milk) and bulgar (hominy made of wheat) are served in homes throughout Turkey. Since there is no refrigeration, fresh meat is seldom eaten. The farm animals thus provide only milk in addition to

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7 Ibid.
their duty as beasts of burden. The city population does eat more meat but even here they are limited by lack of transport facilities and inadequate refrigeration. What little beef reaches the city markets must be shipped only on the hoof.

Sanitation is a concept unheard of by the peasant in Turkey today. Window screens are unknown and the constant swarm of flies seemingly creates no problem. Nearby streams serve both as the domestic water supply as well as a virtual open sewer. When wells serve as the source of water, they are polluted beyond description. The absence of toilets and bathing facilities creates such a continual health menace that one can hardly comprehend the basis for human survival. Since health services and doctors are extremely rare, there is in Turkey today a high incidence of tuberculosis, malaria, dysentery and other infectious diseases. Those who are healthy enough to survive these constant death traps, apparently develop into a hardy stock fortified with the immunity which has been developed over the ages and blessed with the cleansing effect of the sun, rain and their outdoors occupation.

Agricultural technology is unchanged since ancient times. The few farm implements currently employed by the peasants are primitive in design and are confined to hand tools for the most part. The ancient plows are made of wood and only penetrate the top soil. They are rendered even less effectual by the small, weak and emaciated oxen used to pull the blunt, heavy implement. Farm produce is transported by oxen-driven carts with solid wooden wheels or on the backs of donkeys. Improved animal breeding techniques and seed selection and improvement have not yet made any inroads into Turkey's rural culture. Farm
machinery is unavailable to the peasant and ill-adapted to the size of their farms and to their mechanical aptitude. 9

Data regarding the size of land holdings are scarce and unreliable. Nevertheless, it appears that "the majority of farms are less than four hectares in size." 10 If this is correct, probably the typical farm in Turkey includes somewhat less than 10 acres of ground. 11 However, it is reported in 1948 that of 2.5 million holdings, 5,764 ranged in size between 100 and 500 hectares and another 418 estates ran over 500 hectares. 12

Land reform is extremely important if Turkey is to develop her agricultural industry into an efficient productive unit of the economy. Not only are the farms, for the most part, too small for efficient utilization of mechanical implements, but also exists a large segment of the peasants who have no land at all upon which to produce. 13 The land reform laws passed in the 1920's by Ataturk, as well as those passed in 1945, apparently have had little effect in increasing significantly the number of peasant owners or in increasing the average size of their holdings.

9 Machinery is little known to the average farmer. Of course the state-owned farms and the few large farms in south and southwest Turkey are making use of more and more farm machinery but it is unlikely that this experience will extend to the peasants in the near future. The animal breeding and seed selection stations which the Turkish Government has developed during the past two decades have generally not been available to the peasants. The Government's irrigation schemes have only been of local significance. Therefore, crop yields per hectare are low and have not shown any substantial improvement. (Barker, p. 62).

11 Since 1 hectare equals 2.471 acres, 1 hectare would approximate ten acres.
12 Ibid.
13 Some estimates indicate as many as 787,000 peasant families in Turkey who do not own any land. Other estimates show as many as 1.6 million farm families whose land holdings are insufficient for their needs.
It should be realised, however, that land reform is only a partial answer to the problem. As shown above, the problem of concentration of farmers in the villages, thereby naturally confining their farm activities to the immediately surrounding areas, would have to be considered in the over-all problem. As long as there are no adequate rural roads and no means available to transport the farmers considerable distances from their homes, land reform cannot be very effective. Road and transport improvements assume greater significance in light of this problem.14

The problem of housing the new landowners on their new holdings is also an integral part of the over-all program of land reform. "More attention needs to be given to a realistic appraisal of the possibilities and problems of settling the poorer peasants in new lands, including those now occupied by the State Farms."15

The feeling has been expressed to the writer by a few Americans who recently returned from the Near East that the Turkish peasant is shiftless and lazy. They pointed out that the women do most of the work in the fields while the men spend much of their time in the village. Perhaps a better understanding of the country's customs will partially explain this phenomenon. It has been traditional, in Turkey, for centuries for women to be assigned the job of planting, cultivating and reaping the harvest. They are seldom assisted by the men and boys in the routine tasks of growing the produce except during the brief planting and harvest seasons. On the other hand, when any kind of work is to be done that is not assigned to women by tradition such as building a road,

14 Chapter VI will highlight some of the aspects of the road building and transportation program.
15 Ibid.
erecting a building or sawing timber, the men do not hesitate to exert themselves. Furthermore, whenever the peasants leave the farm for employment in the factories or mines, they are found to be both industrious and eager.

Perhaps the attitude toward work, as conceived by the Turkish peasant, is more an inability to know what to do rather than reluctance to engage in strenuous activity. Living in such a primitive society, they must be constantly shown what to do and how to do it. There appears to be little reluctance or resentment on their part toward following suggestions of American technical assistance experts. American agricultural agents in Turkey express great hope and admiration for the Turkish peasant. They feel he is not lacking in ambition or will to succeed. He only lacks leadership and direction, of the "Ataturk" variety, in the agricultural segment of the Turkish economy.16

Why Agricultural Development Should Receive Priority

Reference was made in the preceding chapter to the fact that the majority of the farmers in Turkey produce hardly more than their own requirements. This low productivity constitutes a substantial waste of resources. Until the time of American aid in 1947, the leaders of the Republic were so intent upon the achievement of rapid industrialization that they overlooked the tremendous waste resulting from low farm productivity. When four fifths of a country's population is operating at only a fraction of its potential capacity, industrialization must await improvement of this basic economic illness.

If a concerted effort can be directed toward improving both the productivity of Turkey's farm land and her farm labor, the resulting increase in agricultural incomes will tend to increase substantially the country's national income. This follows from the obvious fact of the overwhelming proportion of the national income contributed by the agricultural population. This greater efficiency in the use of land and labor should also release a large number of workers, who are presently working the land, for future industrial jobs. The demand for industrial workers should, in turn, increase with the increased demand for industrial products resulting from the growing farm incomes.

This more fundamental type of economic development should then further the process of reversion to the private enterprise system currently becoming popular again in Turkey. American advisers point out that the approach developed under etatism was to impose upon the Turkish economy, from above, immediate industrialization with no thought of first building a base upon which this superstructure could stand. The results of that approach have not satisfied Turkey's leaders and they are now at least more receptive to a new approach based upon agricultural development.

Another important reason for starting with agriculture in a program of economic development concerns the rapid growth in the population of Turkey. At the present rate of population growth, more than 200,000 people will soon be entering the labor market annually. Manufacturing, at the present time, is incapable of absorbing a substantial proportion of these workers. If new investment is channeled into the agricultural industry, however, this segment of the Turkish economy could easily develop the capacity to utilize this expanding labor force. In the
decision as to whether the major portion of new investment should flow to manufacturing industries or to agriculture, American experts are overwhelmingly on the side of agriculture. They feel that a given investment will produce much greater employment opportunity in the latter because of the greater comparative advantage of agriculture in Turkey. In general, Turkey's mechanical and industrial aptitude is far below her agricultural ability. Her predominately agricultural environment is the principal cause of this imbalance. However, she is beginning to show signs of a gradual improvement in mechanical ability and it is not unreasonable to assume that eventually manufacturing will develop to the point where it will become as important to Turkey as agriculture is today.

It appears that further elaboration is necessary in order to substantiate the statement above that agriculture possesses the greatest comparative advantage for Turkey. This fact is especially significant in this discussion of the reasons why agricultural development should receive priority because certainly one of the major reasons for agricultural emphasis in Turkey is the rather substantial potentialities in the field of International Trade. It was mentioned earlier in this chapter that the farmer currently supplies the overwhelming bulk of Turkish exports. Traditionally, agriculture has supplied various countries of southeast Europe with large quantities of agricultural commodities. This is true because of Turkey's natural endowment in agriculture. Her population is largely rural, her manpower possesses the natural skill and experience in farming, and much of Turkey's climate is ideal because of the several growing seasons each year. Moreover, since only about 14
per cent of the land is under crops, the majority of the virgin soil is very rich and productive. Furthermore, the foreign demand for agricultural commodities, including foodstuff as well as raw materials for industry, is much higher than is true of industrial goods which Turkey might eventually be able to produce for export. In other words, the strength of her foreign competition would seem to be considerably lower in agriculture than in industrial commodities. Finally, Turkey's limited capital resources would not seem to be as much of a handicap for her in the field of agriculture as it appears to be in industry. In other words, it would probably require far less capital to purchase tractors, farm implements, fertilizer, and seed than would be necessary to set up new factories throughout the country to produce various industrial goods. For all these reasons, Turkey seems to possess her greatest comparative advantage in agriculture.

Perhaps mention should be made of the role of agriculture in providing food for Turkey's expanding population. At the present time, Turkey's per capita income is very modest. Food consumption, per capita, is also extremely low. This fact is especially significant when one realizes the percentage of Turkey's population engaged in farming. The answer to this strange paradox lies in low farm productivity, poor transport facilities, and general economic backwardness of the nation. Unless food production can increase by more than two per cent per year, this already low per capita food consumption will decline further.  

If the productivity of the present land under cultivation as well

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as that of the individual farmer does not increase through more capital and better techniques, in order to satisfy the new demand currently building up, then more farmers will be needed and more land will have to be brought under cultivation to feed a growing population. We have already indicated, however, a few of the problems connected with this expansion of agricultural lands. This opens up the entire field of land reform with its attendant housing, roads, and transport deficiencies.

It is now widely accepted in Turkey that a general agricultural improvement program is vital to the country's future economic development. However, the many complicating factors acting as deterrents to this improvement may not be so well understood. A few of the many obstacles which must be overcome if agriculture is to assume its proper strategic position in the Turkish economy as well as in the world economy will now be examined.

**Obstacles to the Improvement of Farm Productivity**

Until the means are found for moving the increased products, an all-out program for increased farm productivity becomes meaningless. No significant agricultural improvement is possible unless transport facilities can be strengthened to handle the results created by an effective agricultural productivity drive. Many farmers interviewed by American technical assistance teams supported the contention that farm productivity must have as its base a strong farm-to-market transportation program. Otherwise there is no incentive for the farmer to work harder and use efficient techniques when he knows that he is already experiencing difficulty in selling his small surplus from his current crops. Rough estimates show that not more than five to ten per cent of what is
raised ever leaves the district where it is grown. Of this amount, perhaps one third is exported. "Turkey's main base of production and her chief potential domestic market have remained almost undeveloped because of lack, in the first instance, of adequate transportation."\textsuperscript{18} A roads-improvement program is providing transport facilities very rapidly in Turkey at the present time but it does not encompass the farm-to-market roads.\textsuperscript{19}

Closely connected with the transportation obstacle in the expansion of agricultural products is the present status of Turkey's marketing and storage facilities. Her marketing methods are as primitive as her farming methods. The Turkish peasant who wishes to sell his surplus must first transport it over prairie trail or hillside track to a village or town where a local market exists. In the same fashion as their ancestors centuries ago, they barter with other growers or sell their produce to a private merchant. There are no grades or standards, no published prices or established prices of any sort. The farmer, and perhaps his wife and children display their produce in the street and wait for a buyer. Since most of his produce is seasonal, the peasant finds himself in keen competition with all the neighboring farmers who bring in their crops on the same days. The prices prevailing in such glutted markets scarcely pay the peasant for his back-breaking efforts in producing and

\textsuperscript{18} Thornburg, \textit{Op. Cit.}, pp. 52-53.

\textsuperscript{19} The following chapter analyzes the progress of Turkey's Highway Development Program. Completion of this program will aid somewhat in the movement of agricultural produce into wider domestic markets and into more foreign markets. At the present time, however, this program only applies to the development of a national highway network. The need for a separate program for development of village and farm-to-market roads can hardly be exaggerated. In the absence of such a project, the villages will continue to develop their outmoded self-sufficient economies and increased farm productivity will become a meaningless phrase.
marketing his farm produce.

In a few localities a government buying agency may be found. Also limited storage facilities are available—tobacco warehouses, sugar beet warehouses or perhaps a cotton mill may be at hand. Such establishments are a rare exception, however. It is also extremely rare to find cold storage or refrigeration facilities for perishables and when they are available it is only in the largest cities. 20

Ataturk made an attempt, in 1932, to improve Turkey's ancient marketing system. In the depression of that year, the price of wheat had dropped so low that it had a disastrous effect on Turkish farmers and hence on the whole economy of the nation. A system of state marketing was instituted to store and sell all the wheat offered. Prices were established somewhat higher than the market under a government subsidy arrangement. The government also began the construction of elevators, warehouses and other buildings useful in the marketing process. The official name for this state marketing organization is Central Office of Products of the Soil, usually abbreviated to "Toprak". Today Toprak has control over wheat, barley, and oats—the principal grains of the country—as well as peanuts and the opium monopoly. 21 However, its principle function is to subsidize the wheat growers by control of prices.

20 If a peasant brings to market a freshly killed sheep or cow, it is immediately covered with pestiferous flies. Since decay will soon claim this as well as other types of perishables, the peasant must accept whatever price is offered for such products or risk total loss.

21 Toprak buys, sells and stores a great variety of other farm produce as well including rice, peas and flour. Also its duties are to stabilize prices; restrain private speculation; export and import; improve grading, standardization and marketing; own and operate warehouses, elevators, flour mills and bakeries; and to distribute seed in order to improve the strain of cereals. It has a monopoly of imports and exports but not of flour mills or internal markets. (See Thornburg, Op.Cit., p.55.)
"It is the Turkish parallel of the AAA in the United States.\textsuperscript{22} This organization has not been very effective in improving agricultural marketing in the small, local markets. Since it rarely extends down to these markets, it has done little to improve the physical efficiency of marketing on the lower levels.

Another basic obstacle to the improvement of agricultural productivity was referred to earlier in this chapter under the need for land reform. Any contemplation of greater use of farm machinery as part of the increased productivity program immediately runs head-on into the present land ownership problem. The size of land holdings sets definite limits on the rate and extent of further expansion of production through mechanical power farming. In the case of cereal production, for example, "the farmed area has to be at least 200 and preferably 300 hectares in size to justify mechanized cultivation.\textsuperscript{23} And it has been estimated that of the approximately 2.5 million farms in Turkey, "97 per cent are of 125 acres or less.\textsuperscript{24} Mechanized production of the grain crops, then, apparently must await the redivision of present farm lands in Turkey or, perhaps, the development of additional farms of greater average size.

Not only does the present average size of farms preclude the use of more mechanical farm implements; the utter poverty of the millions of small-tract farmers also tends to bar this means of greater farm productivity. Most of the Turkish farmers simply do not have the resources sufficient to purchase a tractor and related machinery without involving

\textsuperscript{22} Ibid.
\textsuperscript{24} Thornburg, \textit{Op. Cit.}, p. 64.
themselves in greater debt and production costs than they can handle.

Notwithstanding these limitations, the Economic Cooperation Administration encouraged mechanization as a means of expanding agricultural production. When ECA assistance began early in 1949, there were 3,200 tractors in Turkey with 1,200 in very poor condition. The number in operation today is likely to approximate 10,000. Even though there are no comparable estimates of the types and numbers of other power machinery, it is probable that it has increased proportionately during the period. Much of this agricultural machinery expansion has resulted from the American aid program in Turkey.

The increased emphasis on mechanization, accompanied by a few land reform measures, tended to develop new complications in the drive for greater productivity of the farmer and his farm. First, the lack of spare parts, repair facilities, and the shortage of people possessing a bare minimum of mechanical aptitude among the farmers, have reduced the effectiveness of farm power equipment. Not only has the shortage of tractor repairmen created a serious obstacle in tractor utilization, but the lack of trained tractor operators is an equally serious deterrent. Second, to the extent that tractors are purchased by men who now own and rent land to villagers, there is the ever-present danger that these landowners may decide to farm their land themselves. This would tend to displace more and more peasants thereby creating a serious social adjustment problem. Already such a problem is beginning to develop in certain areas of Turkey. A third consequence of increased emphasis upon mechanization, imposed from above, may be the adverse effect upon the land reform movement itself. As pointed out earlier, there is an enormous amount of potential farm land now inaccessible
because of lack of rural roads. Furthermore, it has been shown that as many as 787,000 peasant families do not own any land. If the relatively few, wealthy landowners are allowed to encroach upon this area destined for the Turkish peasant and mechanize its agriculture, serious technological unemployment may be the result. On the other hand, if the land is divided among the poverty-stricken peasants, the likelihood of increased productivity through mechanical farm implements is very remote indeed. The cooperation of village farmers in the joint ownership of tractors and implements has been suggested as a possible escape from this dilemma. Critics of this suggestion point out, however, that Turkish farmers are not kindly disposed to such cooperation.  

A further obstacle in the productivity drive of Turkey's agriculture is the shortage of technical know-how. There is no domestic body of trained and experienced agricultural extension workers willing and able to impart to the farmer the latest proved information concerning better production techniques and marketing practices. Numerous American technical assistance teams have journeyed through the country and have contributed greatly to the body of agricultural knowledge and techniques much of which is currently in use among the farmers. But this is no continuing program extending for years into the future. Nor is there, at the present time in Turkey, an equally competent research corps constantly engaged in testing new techniques and adapting them to Turkish conditions. Such a group of research personnel could devise more efficient hand implements; could develop improved seed and livestock as well

as methods of protecting each of them. This group of experts is sorely needed in the entire field of market research and improvement. This research staff could work out methods of conserving such scarce and abused resources as forests, water and grazing lands.  

The mention of water resources brings to mind another serious hindrance to increased farm productivity created by inadequate irrigation of Turkey's predominately semi-arid farms. "So much of Turkey is semi-arid, especially the Anatolian Plateau, which is the country's breadbasket, that water is frequently a serious limiting factor on agricultural production." The high mountains which surround this central plateau provide extensive watersheds, rivers and streams which offer practical possibilities for irrigation in the future. It is estimated that about 100,000 hectares of land, mainly in small units, is presently being irrigated. This is considered very insignificant when compared with Turkey's irrigation potential. The individual farmers who now employ irrigation in their farming technique generally divert water from a small stream by the use of crude dams and then channel this water through shallow ditches dug with ancient tools. Most of these devices are of

26 A particularly important problem to be faced by a research team of this sort is that of the shortage of fertilizer. The vast majority of Turkish farmers use no fertilizer of any description. They cannot afford the imported foreign commercial fertilizers and all animal dung is burned as fuel. I had an occasion to talk with a gentleman in ECA in Washington, D.C. in 1951 who is a specialist in manufacture of commercial fertilizer. He was on his way to Turkey to advise the Turkish government in the use of their abundant natural resources of sponges found along the Aegean Coast. It was his contention that these inexpensive sponges could be used in the manufacture of a very inexpensive and effective fertilizer. This is an example of the type of research needed in Turkey if its agricultural productivity is to improve. A Turkish research team could surely assist in this objective.

27 Ibid., p. 75.
28 Ibid.
the kind which can be constructed with a man's hands. Little use is
 currently being made of machinery for preparing irrigation canals.\textsuperscript{29}

The development of hydroelectric power dams in Turkey has as one of its
major objectives the improvement of irrigation facilities in order to
improve agricultural productivity.\textsuperscript{30}

A major obstacle restricting agricultural productivity is the unavailabil-
y of long-term farm credit to the great majority of peasants. The Agricul-
tural Bank from 1937 to 1949 increased its volume of loans
by more than ten times but it is still virtually impossible for a farmer
to obtain a loan unless he has proper collateral security. Furthermore,
more than 90 per cent of the Bank's loans to individual farmers are for
less than one year and consist largely of crop loans.

There is a great need in Turkey for long-term loans to finance
capital improvements. As indicated earlier, such a simple item as ferti-
izer is beyond the reach of most farmers because they simply do not have
the funds to buy it. Perhaps the most neglected credit problem among
the farmers is that of the sharecroppers, the tenant farmers and the very
small landholders. Their chances of obtaining credit are slim indeed.

It must be emphasized, however, that even though it is a simple task to
establish the need for loan funds among the farmers, it is entirely
another question when it comes to the ability of this group to repay
those loans. The peasant rarely possesses the knowledge and skill to

\footnote{29 In the dry-farming wheat areas, mountain streams sometimes are
tapped to give the land one light watering before planting winter wheat. The
practice is extremely successful in the necessary quick germination
of the seed. An extension of this technique might have significant re-
results in productivity improvement. (See Thornburg, \textit{Op. Cit.}, p. 51.)}

\footnote{30 Chapter IX deals with the Sariyar Hydroelectric Power Project
and discusses the irrigation potentialities of this and other similar
projects.}
put his credit to productive use. Experience shows that when a loan is granted, it usually increases the peasant's consumption and there is nothing left over to improve his productive capacity.

An easy solution to the problem of farm credit and, for that matter, to any of the obstacles presented above, probably cannot be found. Nevertheless, most of these obstacles are becoming increasingly clear in the minds of the various American technical experts as well as the policy-making groups within Turkey. Perhaps this greater knowledge of the major problems to be overcome is a partial achievement of the long-run program of improved agricultural productivity. At least the way is being cleared for the development of a broad, agricultural program which should strengthen the entire structure of the Turkish economy.

Survey of Current Agricultural Production

Turkey has a wide diversity of crops mainly because of the diversity of her climate and soil. Rainfall varies considerably throughout the coastal regions, the plains and the mountains. Products vary from winter wheat, on the one hand, to oranges, tea, tobacco, cotton and rice on the other. Turkey's livestock ranges from hardy highland cattle and goats to Indian water buffaloes and camels. Table 8 shows the extent of land utilization throughout Turkey in both 1934 and 1949. This table indicates that grasslands, pastures, and meadows occupy well over one half of the total land area in use in Turkey and the actual land used to produce such farm commodities as grain, vegetables, industrial crops, fruit and olives is only about one-eighth of the total land utilized throughout Turkey.

The semi-arid region of the central plateau throughout the course of history has been renowned for its wheat. Approximately 84 per cent
Table 8

Land Utilization, Turkey, 1931 and 1949

<table>
<thead>
<tr>
<th>Category</th>
<th>1931</th>
<th>1949</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area in 1,000 Hectares</td>
<td>Per Cent of Total</td>
</tr>
<tr>
<td>Grains</td>
<td>5,903</td>
<td>7.6</td>
</tr>
<tr>
<td>Pulses</td>
<td>477</td>
<td>0.6</td>
</tr>
<tr>
<td>Vegetables</td>
<td>143</td>
<td>0.2</td>
</tr>
<tr>
<td>Industrial crops</td>
<td>147</td>
<td>0.2</td>
</tr>
<tr>
<td>Other crops</td>
<td>6</td>
<td>0.0</td>
</tr>
<tr>
<td>Fallow</td>
<td>3,674</td>
<td>4.8</td>
</tr>
<tr>
<td>Total Land Under Cultivation</td>
<td>10,700</td>
<td>13.8</td>
</tr>
<tr>
<td>Fruit trees</td>
<td>286</td>
<td>0.4</td>
</tr>
<tr>
<td>Olive groves</td>
<td>347</td>
<td>0.5</td>
</tr>
<tr>
<td>Vineyards</td>
<td>345</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Tree and Vine Crops</td>
<td>978</td>
<td>1.4</td>
</tr>
<tr>
<td>High quality grasslands</td>
<td>3,421</td>
<td>4.4</td>
</tr>
<tr>
<td>Pastures</td>
<td>2,877</td>
<td>3.7</td>
</tr>
<tr>
<td>Meadows</td>
<td>36,032</td>
<td>49.2</td>
</tr>
<tr>
<td>Total Meadows and Pastures</td>
<td>44,330</td>
<td>57.3</td>
</tr>
<tr>
<td>Total Agricultural Area</td>
<td>56,008</td>
<td>72.5</td>
</tr>
<tr>
<td>Forests</td>
<td>9,170</td>
<td>11.9</td>
</tr>
<tr>
<td>Lakes and swamps</td>
<td>960</td>
<td>1.2</td>
</tr>
<tr>
<td>Other non-productive areas</td>
<td>11,097</td>
<td>14.4</td>
</tr>
<tr>
<td>Total Area</td>
<td>77,235</td>
<td>100.0</td>
</tr>
</tbody>
</table>

of the total planted acreage of Turkey is devoted to cereals. Table 9 provides rather recent production estimates for the principal agricultural commodities in Turkey. Wheat, the principal cereal crop, constitutes 55 per cent of total cereal production. This crop occupies a strategic position in the Turkish economy since wheat bread is the most important staple food of both the peasants and city dwellers alike. The other important cereals of the central plateau are barley, maize, rye, oats, spelt, millet and rice.

The great variety of agricultural commodities shown in Table 9 serves to highlight the future potentialities of agriculture as the basic industry of Turkey. The careful selection of those commodities which appear to offer the greatest comparative advantage in world trade would be an initial step in the expansion of Turkey's exports. Concentration of attention upon these selected commodities in order to improve their productivity would seem to be the second logical step if Turkey is to achieve over-all economic improvement. There are many countries of western Europe—Germany, France, England, and Italy—which are large producers of agricultural equipment, fertilizer, hybrid seeds and all sorts of industrial equipment and supplies. They would be willing and able to export these items in exchange for agricultural commodities. "In spite of record 1951 harvests in most areas, western Europe must still import a large percentage of its food supplies. One European out of every three is dependent on outside food sources for daily requirements."31 With defense demands and population growth putting heavy pressure on

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Table 9

Production of Principal Agricultural Commodities,
1934–1938 Average, Annually 1947–1950
(Thousands of Tons)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>3,708</td>
<td>3,246</td>
<td>4,867</td>
<td>2,495</td>
<td>3,874</td>
</tr>
<tr>
<td>Barley</td>
<td>2,075</td>
<td>1,512</td>
<td>2,167</td>
<td>1,220</td>
<td>2,021</td>
</tr>
<tr>
<td>Corn</td>
<td>587</td>
<td>531</td>
<td>696</td>
<td>609</td>
<td>626</td>
</tr>
<tr>
<td>Other grains</td>
<td>934</td>
<td>916</td>
<td>1,311</td>
<td>806</td>
<td>n.a.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>181</td>
<td>325</td>
<td>4,544</td>
<td>471</td>
<td>590</td>
</tr>
<tr>
<td>Sugar beets</td>
<td>432</td>
<td>639</td>
<td>726</td>
<td>817</td>
<td>800</td>
</tr>
<tr>
<td>Pulses</td>
<td>212</td>
<td>193</td>
<td>259</td>
<td>212</td>
<td>267</td>
</tr>
<tr>
<td>Vetch</td>
<td>107</td>
<td>89</td>
<td>118</td>
<td>97</td>
<td>125</td>
</tr>
<tr>
<td>Oilseeds</td>
<td>156</td>
<td>161</td>
<td>224</td>
<td>298</td>
<td>380</td>
</tr>
<tr>
<td>Cotton fibre</td>
<td>60</td>
<td>51</td>
<td>58</td>
<td>105</td>
<td>117</td>
</tr>
<tr>
<td>Flax fibre</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Hemp fibre</td>
<td>8</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Tobacco</td>
<td>61</td>
<td>102</td>
<td>83</td>
<td>91</td>
<td>85</td>
</tr>
<tr>
<td>Onions</td>
<td>98</td>
<td>86</td>
<td>166</td>
<td>183</td>
<td>169</td>
</tr>
<tr>
<td>Citrus fruits</td>
<td>247</td>
<td>380</td>
<td>448</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Figs, fresh</td>
<td>146</td>
<td>125</td>
<td>119</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Grapes</td>
<td>885</td>
<td>718</td>
<td>1,332</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Olives</td>
<td>n.a.</td>
<td>274</td>
<td>210</td>
<td>n.a.</td>
<td>286</td>
</tr>
<tr>
<td>Other fruit</td>
<td>n.a.</td>
<td>234</td>
<td>361</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Nuts</td>
<td>149</td>
<td>130</td>
<td>121</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Wool (in grease)</td>
<td>25</td>
<td>32</td>
<td>34</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>Mohair</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

1 For all fruits and nuts, average for 1936–39 is given.
2 Early estimates.

Europe's food supplies, western Europe must import 30 per cent of its food needs this year.\footnote{ibid., pp. 3-5.} Turkey's opportunity is obvious and her potential gains to be derived from increased exports to Europe are tremendous. All of the many industrial items which she needs are within her grasp if she can accomplish the necessary expansion of her agriculture. Increased exports to these industrialized countries will provide the means to strengthen her own agriculture which in turn will provide even greater export surpluses. The expansion of both her industry and her agriculture could thus be accomplished by greater trade with Western Europe. Perhaps mention should be made of the fact that western Europe is not only in need of agricultural commodities from Turkey. Turkey's rich natural resources of chrome, iron ore, coal, lignite, copper and sulphur are also wanted by her neighbors of the west.\footnote{Later chapters will take up in order the coal, lignite and iron ore production improvements currently going on in Turkey. Their position in world trade will also be analyzed.}

In order to show clearly the localities of Turkey in which the various commodities shown in Table 9 are produced, Appendix A is submitted in the form of a map of Turkey. It is interesting to note from this map that the coastal region which surrounds most of Turkey contains the chief agricultural areas producing the commodities shown in Table 9. In the past 2 years, however, wheat and cotton production have become increasingly important in the total production of agriculture in Turkey and these commodities are grown chiefly on the central Anatolian plateau.
Agriculture's Position in Foreign Trade

As indicated earlier in this chapter, agriculture occupies the dominant role in Turkey's export trade. Table 10 is submitted to show the proportion of each agricultural item to the total agricultural exports of the country. It should be emphasized, however, that this table gives the 1950 percentage breakdown of Turkey's agricultural exports and that recent changes have taken place to alter these figures somewhat. Nevertheless, this table covering 1950 exports should provide an idea of the main items in Turkey's export trade.

It is particularly significant that the food items most needed by western Europe such as milk and dairy products, meat, fats and oils, sugar, and bread grains were among the less important export items in Turkey in 1950. Most of the commodities were not exported by Turkey at that time because of the overall low productivity. Recent reports indicate that bread grains, sugar, and oils have been substantially increasing in production and in greater exports abroad during the past two years.

Table 10 indicates the importance of raisins in the export items of Turkey. The world famous Sultanina raisins, the sweet stoneless raisins which are now grown in the San Joaquin Valley in California, originated in Turkey. The United States has recently taken over first place in world production of raisins but Turkey occupies second place. The production of olives and olive oil are also significant items in the

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34 "Turkey's former leading exports, such as tobacco, dried fruits, and nuts, have recently given way to grain, cotton, oil seeds and minerals, for which there is a strong foreign demand. Turkey is now in a position to export more than one million tons of grain a year." (International Financial News Survey, International Monetary Fund, Vol.V, No. 6, August 8, 1952, p. 45.)
Table 10

Turkish Exports, 1950

<table>
<thead>
<tr>
<th>Category</th>
<th>Per Cent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>30%</td>
</tr>
<tr>
<td>Dried fruits and nuts (raisins, figs, pistachio &amp; hazelnuts)</td>
<td>15%</td>
</tr>
<tr>
<td>Livestock and by-products (wool, mohair and hides)</td>
<td>11%</td>
</tr>
<tr>
<td>Cereals</td>
<td>9%</td>
</tr>
<tr>
<td>Minerals</td>
<td>8%</td>
</tr>
<tr>
<td>Miscellaneous (rugs, fish, olive oil, etc.)</td>
<td>27%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

foreign trade of Turkey as indicated in Table 10. Olives not only occupy a place of great importance in her international markets but in Turkey's domestic consumption as well. Olive oil is used in most of the Turkish cooking throughout the land. Olives are also a significant part of the Turkish diet. Black olives, with bread and onions, is the lunch menu of the peasant working in the field.

Perhaps reference should be made to the third main item in Table 10 which refers to mohair as a principal item in Turkey's foreign trade. As the chamois symbolizes Switzerland and the kangaroo distinguishes Australia, the animal of Turkey is the Ankara (Angora) goat. It is known throughout the world for its special kind of wool, called mohair. Turkey is today the second largest producer of mohair with an annual production of 4,500 tons.35

The Organization for European Economic Cooperation (OEEC) has recently (1952) established a list of the necessary increases in particular food items needed over the next few years if western Europe is to maintain her calorie consumption levels at the present time. These increases are necessary as a result of the estimated growth of population, the needs of defense and greater purchasing power generated by economic expansion. According to OEEC's estimates, milk and milk products must increase by 15%. Animal feeds and meat must expand by the same amount. Bread grains of 9% over present levels will be needed in the near future. Sugar needs are estimated at 18% above present supplies and fats and oils will have to increase by 45% or the per capita consumption of

Europe will decline.36

Whether Turkey has the technical ability or the physical capacity to meet this challenge for increased agricultural production to help supply the countries of the west with the food needed to maintain their present standards is a great question which no one can answer at the present time. The many obstacles pointed out earlier in this chapter would seem to support the pessimistic critics of Turkey's future. On the other hand, the amazing accomplishments of the Turks during the revolution would seem to support the writer's contention that greatly increased agricultural productivity is, in Turkey today, well within the realm of possibility. Reports received by the Mutual Security Agency in Washington seem to bear out this prediction. Chapter XI will present some of the latest developments in production and exportation of agricultural commodities from 1950-1953.

Summary

Agriculture is the basic industry of Turkey but it has been grossly neglected by Turkey's leaders who have concentrated attention too much upon immediate industrialization of the country. Because of the overwhelming rural population, the natural agricultural heritage, the variety of her climate and soil, the average low mechanical aptitude of her population and the strong foreign demand for her farm produce, Turkey has, in agriculture, a production potential possessing the greatest comparative advantage over all other domestic industries. However, the productivity of her agriculture is extremely low because its important

role in future development has been neglected until the advent of American aid in the post World War II period. Potentially, the agricultural industry can become the basis of a strong, modern industrial economy.

Many obstacles stand in the way of any improvement in this basic industry. One of the most important of these obstacles is the inability to transport the commodities from the farm to the domestic and foreign markets. The problem of poor roads must be solved before increased farm production is both possible and worthwhile. Improved farm roads and national highways accompanied by light farm trucks and heavy transports should pave the way for a strong agriculture and an expanding economy.

Turkey should look to foreign trade for the answer to greater industrialization. Western Europe offers the key to the practical problem. All kinds of industrial commodities as well as agricultural equipment are available to Turkey in exchange for food commodities. The demand for her farm produce is there and is growing each year. By the same token, the goods which Turkey needs for her economic expansion are also available and waiting. The challenge to Turkey is clear. The following chapter analyses the problem of roads improvement in Turkey and indicates its importance in relation to agriculture.
CHAPTER VI

IMPROVEMENT OF TURKISH NATIONAL HIGHWAY SYSTEM

Perhaps one of the most neglected segments of the Turkish economy during Atatürk's reform movement was that of road and highway improvement. It is true that considerable funds have been expended on transportation since the establishment of the Republic. But the entire transportation program has been largely confined to railroad expansion, shipping facilities for the coastal areas, and a few roads which have direct bearing upon the military needs of Turkey. "Improvement in Road Transportation is probably the most fundamental project that could be undertaken at the present time to promote the economic development of Turkey." ¹

Importance of Road Improvement

Turkey's lack of interest in roads-development prior to the second World War is easily understandable. Three quarters of the perimeter of the country is seacoast. Historically, commerce and travel were largely by sea along the coast or to neighboring islands. Penetration of the sparsely settled and rugged interior was practically a physical impossibility. Concentration of the population and most of the economic

activity in areas more easily accessible to this natural transportation medium was both logical and expedient. For the same reason, the bulk of commerce today is located on the rich coastal plains surrounding the country, rather than in the interior. The main export crops are grown here, the ancient trading ports are still functioning and a higher standard of living is experienced by the inhabitants of this region.

If Turkey is to exploit her economic potentialities, however, she can no longer concentrate only on the coastal regions. The possibilities of agricultural development of the interior have already been surveyed. The development of her mineral resources, as well as her agricultural resources, depends upon the easy accessibility to all parts of the country. "Within the political boundaries of Turkey are a hundred 'little Turkeys,' each economically isolated from the rest and usually producing only a fractional part—one-third to one-tenth—of its potential. Obviously the strength of Turkey cannot approach the sum of its parts until they can be added together. Until this be done no surplus will be produced as an increment to the national wealth, no local industries based upon such surplus will be possible, no purchasing power will be created to enable expanded and diversified consumption, and no substantial improvement in the standard of living can be expected."^2

The gains to be derived from road improvement are so numerous that complete enumeration is virtually impossible. Agriculture, the basic industry, could benefit in a variety of ways. More efficient internal transportation facilities should permit cheaper and faster movement of

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farm commodities to markets. This would, in turn, prevent waste through spoilage as well as increase the total amount of products being produced. In other words, greater accessibility to markets and improved techniques of moving the goods rapidly would tend to call forth greater quantities of farm commodities. A survey by the U.S. Public Roads Administration to Turkey cites estimates of Agricultural Economists that at least 10 per cent of current wheat production in Turkey is being lost through spoilage because of the absence of transport facilities. They further estimate that with improved roads, farm produce could be increased as much as 75 per cent since no effort is made at present to produce goods which cannot be marketed. 3

Improved roads should also reduce the spread between farm and city prices to the advantage of both farmers and urban consumers. The somewhat higher prices which the farmer could get in the city, as compared with his present low prices obtained at the farm, would tend to increase the farmer's incentive to produce. By the same token, the somewhat lower prices prevailing in the city as the result of increased availability of food and agricultural products, should tend to increase overall urban food consumption.

In turn, roads would expand the market which industrial producers could reach and thus facilitate regional specialization and the growth of larger industrial units. A very significant benefit would be the resulting availability of industrial goods to the overwhelming majority

of the population—the farmers. As indicated earlier, this segment of the population is almost wholly unaware of the existence of industrial products. These goods are certainly inaccessible to them even though the peasants may be familiar with the existence of such luxuries.

Not only do roads offer unlimited economic possibilities, but also they affect cultural and political development. Improved roads accompanied by the greater mobility of agricultural and industrial goods together with the increased movement of people and ideas, would undoubtedly help to reduce the psychological barriers to the spread of scientific knowledge and modern views toward cultural and political improvement. 4 "Every possible advance in Turkey, whether for development of agriculture and industry or for improvement of health, education and other social and political goods, depends on transportation." 5

Finally, the effect which new roads will have on Turkey's future balance of payments situation should be discussed in this section on the importance of road improvement in the country. This problem of balance of payments will be discussed in some detail in Chapter XI. However, it should be pointed out here that there are many industrial commodities which Turkey must have in order to continue her economic improvement. As indicated earlier, she can obtain these most easily through international trade. This means that greater agricultural production, which is her main source of income, will have to be greatly expanded. One of Turkey's main handicaps, however, in the expansion of agricultural

production and marketing is the poor transportation facilities in the interior of the country. Improved roads are likely to contribute greatly to expanding quantities of farm commodities for sale abroad. Moreover, better roads are more likely to attract foreign capital to help finance Turkey's future industrialization program. Surely no country would be willing to invest in Turkey as long as most of the people remain isolated from the national and international markets. Moreover, loans from abroad to finance Turkey's industrial improvements will undoubtedly depend on Turkey's ability to show that she can develop a well-integrated economy based upon an efficient transportation system. New roads in Turkey will very likely affect a number of the items in the country's balance of payments in the years to come.

**Status of Roads and Highways at Time of Foreign Aid (1947)**

At the beginning of the U. S. Aid program, the Minister of Public Works indicated that there were about 15,000 miles of roads under his jurisdiction. Only 380 miles of this total were surfaced with asphalt or stone and only 150 miles were treated with tar. Almost half of the mileage (6,800) was surfaced with water-bound macadam and reputed to be in fair condition. The rest was either badly deteriorated or unsurfaced, and became virtually impassable during frequent rains. The condition of these latter roads accounts in part for the widespread use, by the peasants, of the donkey as the primary means of transport. In most seasons of the year, any type of vehicle including the cart is unable
to move over the muddy morass of deep trenches or ruts which marked
the road. 6

As indicated in the preceding paragraph, only about half the national
road mileage was capable of being traversed with safety by ordinary
motor vehicles. And most of these so-called all-weather roads do not
compare to similarly designated roads in Western Europe. Furthermore,
almost all of these roads were found in and near the urban districts
with the possible exception of a few military highways.

In addition to the 15,000 miles or roads (predominately national)
under the jurisdiction of the Minister of Public Works in 1947, there
were another 12,000 miles under local jurisdiction. These rural or
provincial roads were almost entirely of the unsurfaced, ungraded vari­
ety. In most instances they took the form of mere trails with no clearly
marked ditches nor carefully defined road-beds. A severe shortage of
road-improving equipment and a limited supply of manpower prevented any
real solution to the problem of impassable rural roads. 7

Roads-improvement, prior to 1947, had been slow and difficult. The
lack of skill in road building and the shortage of equipment were prob­
ably the major obstacles. The necessity of importing all equipment, fuel

6 Of the so-called improved, unsurfaced roads in Turkey, the govern­
ment lists roughly half as "passable, though traveling is difficult." The
remainder are "passable by carts during the dry season only." Turkish carts tend to cut up the road so quickly in wet weather, that
after the first few carts have passed, travel by this medium immediately
comes to a standstill. (Ibid., p. 82.)

7 It is a common sight to see a group of men squatting by a pile of
stone along an unsurfaced road, crushing the stone into assorted sizes
with small hand hammers in preparation for eventual hard-surfacing of
the road. Until 1947, Turkey had virtually no modern road-building or
road-repairing equipment. (Ibid., p. 84.)
and vehicles with practically no surplus of exports over imports to pay for these items helped to prevent an ambitious roads-development program prior to the Marshall Plan. Furthermore, the rugged terrain made hand methods almost entirely ineffective as a road building technique. It had become increasingly clear soon after World War II that foreign assistance was the only solution to Turkey's stalemate in the problem of road development.

**Major Problems Faced by American Advisers**

At the present time careful consideration is being given in the United States and at the United Nations to the problem of extending technological aid to underdeveloped areas of the world. In Turkey an American aid program has been underway for several years meeting and coping with many of the problems likely to arise when and if American assistance is extended to backward areas not covered by the present programs. "For those of us who have had an opportunity to follow this experiment in grassroots technical assistance, it looms as a model in the rapidly expanding sphere of technical cooperation and therefore we believe that it has more than local Turkish significance."8

The cooperative Turkish-American program or road building was originated by the Turks as early as 1946. At this time an inter-ministry conference was held to examine the highway situation and to draw up a program of improvement. The outcome of this conference was the Turkish-American Co-operative Highway Program. The actual beginning of the

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roads project, however, did not take place until December 1, 1947, when a group of experienced highway engineers, sent by the Bureau of Public Roads of the United States Department of Commerce, arrived in Turkey.

The members of the Public Roads Group were selected from the experienced personnel of the Bureau of Public Roads and the State highway departments. The United States Commissioner of Public Roads personally directed the formation of this mission and the selection of the personnel. He understood many of the problems likely to develop if these Americans were not screened carefully and chosen for their ability to adapt to new surroundings and circumstances. "He insisted upon dispatching a mission composed of members who, in addition to being expert in various phases of road planning, construction, and maintenance, were by temperament adaptable to both the physical and social climate of Turkey."9

The Commissioner of Public Roads selected engineers who had lived and worked in areas of western United States similar in climate and topography to major areas in Turkey. The members of this team who were recruited in such a painstaking manner were more adaptable, therefore, to the many problems which they would face in Turkey. A carefully developed training school was set up in the United States to acquaint them with these problems. This school provided the engineers and their families with a clear picture of where they were going, why they were going there, and what standards of performance would be required of them while there. It was pointed out, for example, that the bridge engineers and their families would for months at a time live in house trailers and

9 Ibid.
would associate frequently with the Turkish peasants far removed from city life.

"This careful selection of personnel by the Bureau of Public Roads has paid substantial dividends, and a detailed examination of the Bureau of Public Roads' foreign program personnel recruitment policies will be of considerable value to persons directing technical assistance programs abroad." 10 Probably some of the results accomplished by this roads project (discussed later in this chapter) can be attributed to this careful selection of personnel. It is the writer's opinion that greater attention should be given to this matter of personnel selection in all proposed project expenditures for any country receiving foreign aid. Various Americans who have returned from foreign duty with technical assistance teams revealed the fact that many American technical experts became very poor "ambassadors of good will" for the United States. Neglect in the proper selection of personnel in matters other than technical proficiency cannot be overlooked as an important cause of the failure of a project to realize its projected goals.

The first responsibility of the members of the Public Roads Group when they arrived in Turkey was the administering of the funds allotted to Turkey for highway improvement under the United States Aid to Greece and Turkey, Public Law 75, 80th United States Congress. 11 This group of American advisers began immediately a study of highway needs and the problems which were likely to be encountered.

\[\text{10 Ibid.}\]
\[\text{11 Future references in this chapter will be made more specifically to this source of initial aid with the amount allotted to the roads project.}\]
One of the first major problems facing this group was the lack of a nation-wide highway system. Most of the usable roads were centered around the large cities. The earlier construction of the few roads which extended into the interior of the country had been dictated by the terrain which is inclined to be rugged. Lacking mechanical means to cut through this rough terrain, the workers simply followed the course of the river valleys and along the circuitous route of streams. The first major attempt of this American group, therefore, was the development of a "program" of roads improvement anticipatory to an eventual system of national highways.

An equally serious problem facing the Public Roads Group in 1947 was the critical shortage of road-building and maintenance equipment. Lack of emphasis on roads prior to 1947 was the major reason for this shortage of equipment. Turkey's major emphasis during the previous quarter of a century had been on rail transport and shipping facilities. Obsolete and costly methods of highway construction had been in use throughout the country for centuries. These methods emphasized manual labor rather than machinery as a road building technique. The few pieces of equipment on hand when the American Aid team arrived was old, obsolete and frequently in need of repair. Usually when a machine broke

12 One writer traveled over 4,000 miles over roads in nearly every region of Turkey in 1947 and counted only eleven power-driven road rollers throughout all his travels. He indicated that four of these were abandoned by the roadside and apparently stripped of accessories. Of the remainder, only one was working on an important highway job—in northeastern Anatolia. The other six were in use on a single fifteen-mile stretch of road on the southeast coast, which ran through a completely barren district to a local seaside resort, consisting of perhaps twenty houses inhabited only during the summer months and owned largely by local politicians. (See Thronburg, Op. Cit., p. 82.)
down and parts were needed, the only recourse was to obtain the needed parts from another similar machine thus rendering it inoperable.

Foreign exchange was rarely available to buy the needed spare parts to maximize the efficiency of existing equipment. Inventories of spare parts were quite out of the question.

The "local" personnel problem was among the more serious handicaps to the development of the roads program. The shortage of trained personnel in all the technical fields of highway engineering, equipment operation and maintenance, supervision of personnel, etc., presented a major problem at the outset. Often when such trained persons were recruited, it was discovered that their pay scale submitted by the Turkish government was too low to keep them, they were thus lost to the roads project. "All salaries of government employees are set by a civil service law, now unrealistic in the face of rising costs of living. In addition, taxes absorb about one-third of the gross salary of a government functionary. This insufficiency of pay opens the door to graft and bribery. In the Roads Department it results in inability, first to recruit, and then to hold qualified men, since the civil service law fails to take into account the fact that governmental organizations engaging in economic activity must compete with private enterprise for personnel."

Another serious obstacle to efficient operation of the roads program faced by the public roads group, was the principle of "obligatory service" in connection with local personnel. When the government pays

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for the education of a young engineer, an agricultural expert, or a specialist in some other field either at some school in Turkey or abroad, this person is then obliged to work two years for the government for every year of training received at government expense. This often creates dissatisfaction on the part of the trained specialist because of the restriction placed on his employment opportunity. It also frequently imposes a salary scale upon him much below his merit or the comparable position in private industry. The result of such a mandatory commitment frequently destroys initiative and turns many highly trained and experienced men away from government employment after their obligatory service is over.\textsuperscript{11}

The American Public Roads Mission to Turkey has frequently run head-on into the complicated and bureaucratic governmental administration which has grown up in Turkey. At the time of the inauguration of the roads program, the function of highway and bridge construction and maintenance was performed by the Roads and Bridges Department of the Ministry of Public Works. Under this awkward arrangement, whenever the American advisers recommended the purchase of equipment or the hiring of personnel, application had to be made to an independent bureau—The Ministry of Public Works—which could either approve or reject the request without knowing the needs or the circumstances surrounding the request. This lack of an autonomous Department of Highways, similar to that of the

\textsuperscript{11} An interesting incident occurred in the Iskenderun school for training operators and mechanics in the use of modern road equipment. The young engineer in charge of the school, who received his education at the Istanbul Technical University at government expense, earned only TL 173 a month (about $62), while the trainees under him were paid TL 15 a "day" and the interpreter received TL 19 per day. (Ibid., p.202.)
United States Public Roads Administration hampered the efforts of the American Public Roads Mission in Turkey.\(^{15}\)

The entire governmental administrative procedure often created considerable difficulty in understanding which bureau had jurisdiction over particular functions. There were constant inter-organizational conflicts which confused the Turks as much as the Americans. There appeared to be an absolute lack of any clear definition of the functions of various governmental departments.\(^{16}\)

By far the most serious problem arising from lack of organizational autonomy was the impossibility of setting up accounting and financial control within the Roads and Bridges Department. The Ministry of Finance keeps the principal accounts for all government departments, and records of cost of equipment or supplies are usually never seen by the department for which they are purchased. Through this odd arrangement, the Highway

\(^{15}\) An example of this problem has been cited by the American adviser to the Materials Division of the Highway Department. When this agency attempted to procure some four-wheel-drive vehicles as equipment for the field teams, they had to first get approval by the Accounts Control Office of the Ministry of Finance, which created considerable delay. Another delay occurred when the Roads Department bought some of the vehicles directly from the supplier instead of advertising for bids in accordance with the adjudication law, despite the fact that there was only one supplier of the vehicles in the country. During this dispute, TL 2,000 a month in salaries of trained field personnel was wasted for each of the teams without a vehicle. Further delays were experienced in obtaining advances for expenses to be incurred in the field. It required a week to draw only TL 50 because of the complicated procedure involved. (Ibid., p. 200.)

\(^{16}\) An example of this inter-departmental confusion was the controversy surrounding the new airport at Istanbul. At first the Turkish State Airways made a contract with an American engineering corporation to plan the project. This same company had also been granted the right to construct the project until the Turkish Government decided that it was the function of the Ministry of Public Works to handle this construction work. This bureau, in turn, passed the job on to the Roads Department on the grounds that it had the necessary heavy equipment on hand for the job. (Ibid.)
Department never knew exactly its costs of operation; nor was it ever sure that all the funds to which it was entitled were turned over for its use. Road taxes designated for division between national and provincial roads often went into general government accounts. Provincial authorities frequently diverted funds designated for road work into projects far removed from such construction because of the lack of adequate controls.

The Americans *have also encountered significant problems which can be traced to the behavior patterns characteristic of Turkey and to the elementary stage of its economic development.*17 They have faced the problem of what might be referred to as the "caste" system on construction projects. The social breach between engineer and laborer is very marked, especially when the engineer acquired his knowledge from books rather than from experience. The typical project engineer has had almost no practical experience; he is strictly an executive by virtue of his education. He simply dictates work to be carried out by others. Since manual labor is considered degrading, most engineers would not be caught engaged in anything resembling labor even to the extent of driving a stake into the ground.18


18 This inexperience of project engineers has greatly impeded progress in the roads program. When machinery and carefully trained personnel are placed at the disposal of such a supervisor, both are wasted because of his inexperience or authoritarian direction. These engineers have often been known to demand uneconomic or even impossible tasks from equipment. Completely ignorant of the technology involved, they have sometimes dispensed with mechanics trained at considerable expense and trouble at the Highway Department's School. Often these engineers have refused to allow time to be spent on machinery maintenance. In a few instances, project bosses have even refused to use the machinery provided. They would prefer the age-old method of building roads by hand labor. (*Ibid.*, p. 205.)
Another serious handicap faced by the American advisers results from the tendency on the part of the Turks to emphasize the high technical skills and to neglect the development of skilled and semi-skilled workers. A preponderance of engineers as opposed to skilled workmen has weakened the whole roads program. Soon after the Americans arrived in Turkey, an urgent request for skilled construction personnel brought offers by the Roads Department to furnish any number of engineers but little help was offered in recruiting skilled workers. This emphasis upon "experts" at the expense of skilled, semi-skilled and unskilled workers has been characteristic of Turkish economic development efforts for the past 25 years.

Additional problems stem from this emphasis upon well-educated, engineering "administrators" at the expense of adequately trained and skilled workers, machine operators and repair technicians. The Roads Department has hired many of these engineers through adjusting pay scales by means of special arrangements. However, they have made little attempt to pay skilled workers and technical personnel wages comparable to industry in order to attract them into the roads program. Therefore, regular machine maintenance and immediate repair of minor defects are almost completely absent not only in the road building project but in most other sectors of the Turkish economy as well. While some mechanics are clever at improvising major repairs when parts are lacking, and show skills which can only be descended from the fact that handicrafts are

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19 In 1950, the J. G. White Company pulled its construction engineering team out of Turkey and refused to extend its contract with the Turkish Government as a result of inability to hire adequate personnel for machine operation and maintenance.
still a major element in Turkish industrial production, regular maintain-
nance and repair as essential elements of modern technology are only
slowly being grasped. 20

The Role of Free Enterprise in The Roads Program

The part that private enterprise plays in the highway program
centers around the contracting of jobs. Competitive bids determine which
private contractor will be awarded a particular construction job. There
is a striking difference, however, between the authority exercised by
these private contractors in Turkey and their counterpart in the United
States. In Turkey, road building contracts with full responsibility are
no longer awarded to a private contractor. The Highway Department
assumes the responsibility of surveying and designing the road and then
accepts bids for the heavy construction work from the private Turkish
contractors. The Highway Department then retains careful engineering
control and inspection rights over the construction work while the
Turkish contractor, who has submitted the lowest bid, undertakes the
actual construction of the particular project.

Plans are being developed to require every private contractor to
pass a qualification test before he can bid for a job. Also thought has
been given to the possibility of loaning or renting Department-owned
equipment to private contractors for construction jobs under the road
building program. On the principal jobs under contract in 1950, the
modern equipment being used was owned by the private contractors them-
selves and was purchased by them without recourse to aid funds. However,

20 Ibid., p. 206.
this situation does not apply at the present time since the program has been expanded substantially and since there are relatively few contractors in Turkey who are equipped or qualified to do modern type construction. It is this situation which the road program may overcome in time.

An example of the results which can be accomplished by private contractors is the recently improved Ankara-Konya road. This work was done by a private contractor supplemented by Highway Department equipment and forces. After the road was relocated in spots and graded throughout, a temporary surface of thin gravel was installed to be improved later according to increased traffic requirements. "Driving time from Ankara to Konya (162 miles) formerly ran from an absolute minimum of 8 hours to a more customary better part of two days, with vehicles often becoming stuck in the mud en route. A Highway Department official reports that he recently made this trip in 4 hours and 15 minutes. Even more significant is the fact that trucking rates on this route have fallen to a tenth of what they were before improvement of the road was undertaken, and bus fares have been halved."21

General Description of the Roads Project

The Roads Project is designated, by the Mutual Security Agency, by the project number XV. Project XV is entitled, "Improvement of Turkish National Highway System Project". This 'national system' referred to in the title of the project comprises a network of 20,366 km. or 12,650 miles. This system does not include the many thousands of miles of provincial and municipal roads. Recent requests have been made to include

21 Ibid., p. 204.
these latter roads in the area designated for improvement but as yet they are primarily in the maintenance stage. Emphasis from the beginning has been on the general improvement of the national system in order to enhance economic mobility throughout the country as a primary step in the over-all economic development of the Turkish economy.

The roads project^{22} began on December 1, 1947, the time of the arrival in Turkey of the American Public Roads Group. This group of experienced highway engineers began at once the study of highway needs. At the completion of this detailed study, they decided that of the 12,650 miles which had been designated as the national system, about 3,974 miles would be considered for immediate improvement by betterment and routine maintenance. These needs were largely determined by traffic requirements—both economic and military. The rest of the system received attention after this initial segment had been improved.

Probably the most important basic decision made by this Public Roads Group at the beginning was the type of construction and surfacing to be utilized throughout the highway system. After careful study of traffic needs, available funds and the time factor, it was decided that "stage construction" would establish the maximum amount of mobility in the shortest possible time and with the minimum amount of expenditures. Stage

^{22} Only five projects will be analyzed in this study—roads, coal, lignite, hydroelectric power, and iron ore. These projects will be discussed in this chapter and the four which follow. It should be made clear that the development projects chosen for study here are only a few of the many projects of the foreign aid program. Other projects of lesser significance include airport expansion, railroad development, mineral development, and many others. Many of these projects are still on the proposed list pending future developments and also future availability of funds granted by the U.S. Government. Moreover, many of these latter projects have been placed on the inactive list and little if any expenditure has been allocated to them recently.
construction refers to the procedure of improving the entire network through one stage of the road construction process to be followed with additional stages of construction later. Since most Turkish roads were merely graded soil with no clearly defined ditches for drainage, they became completely impassable during and after rains. The logical initial development procedure, therefore, was to construct a solid built-up road bed, well-defined ditches for proper drainage and then surfaced with a layer of fine gravel. This procedure has established the maximum mileage of two-lane all-weather roads with adequate bridges and is sufficient for the needs of the Turks at the present time. By this procedure of initial-stage construction, more miles of the national system have been improved than would have been possible if concentration had been placed on relatively small sections of the system embodying all the stages of construction to the final surface. Later, when more automobiles and larger trucks replace the present small and slower-moving vehicles, the secondary stages of construction can be undertaken. When this time comes, it is proposed that these stable existing surfaces will be given bituminous surface treatments which will be followed later as needs develop with plant or road mixed bituminous surfaces as the final stage of construction. The "returns" attributed to the roads project determined in the next section are partly due to this basic decision and road development procedure.
ECONOMIC APPRAISAL OF ROADS PROJECT

The period being considered for this analysis is from the end of
1947, which is the time of the arrival of the American Highway Mission,
until the end of 1950—a period of approximately three years. The
method of analysis used here is designed to determine, approximately,
the economic efficiency of the total expenditures for the roads project
as expressed by the ratio of total returns or gains of Turkey to total
expenditures or costs. This ratio is roughly equivalent to the measure­
ment used in business and known as "return on investment." Since total
investment in the roads is indeterminate—some of the roads have been
in existence for centuries—this analysis resorts to the use of expendi­
tures or improvement costs in lieu of investment figures. The final
ratio, therefore, will be a return on expenditures instead of a return
on investment.

1. Total Expenditures on Roads Project

The first major problem is to determine the total cost or total ex­
penditure on the project during this period. This is not as simple as
it appears. Procurement Authorizations23 frequently are initiated many
months before the expenditures are approved and then additional time lags
develop between approval and actual expenditures, between purchase and
shipment of goods, and between shipment and arrival on the project.
Furthermore, the actual "payment" process for these expenditures may

23 Procurement Authorizations (purchase approvals) are initiated
in the recipient country, approved by the American Mission there, checked
and approved by the Overseas Special Representative in Paris, and then
further checked by various divisions of ECA (MSA) in Washington before
final approval is made by MSA/Washington.
require many additional months before completion. It would seem, therefore, that to obtain the most accurate picture of American Aid expenditures during the three-year period mentioned above, figures for goods actually "purchased and shipped" would be the most satisfactory data available. Therefore, figures representing goods actually purchased and shipped will be used to show total expenditures for the roads project during the first three years. It should be pointed out, however, that this figure has decided limitations. Only a small amount of the materials, machinery, etc. reflected in these totals will actually have been "on the job" during the entire three year period. Furthermore, some of this material undoubtedly was not utilized at all during this period because of delays in shipment, late purchasing or delays in the road building program. In spite of these limitations, it appears that such figures will more accurately represent the "total expenditures", for purposes of this analysis, than any other available data.

Table 11 indicates the amount of total foreign aid expenditures during 1948, 1949 and 1950 from two different sources of American Aid. The first source was provided under the Turkish Aid Program established by the Act of May 22, 1947, Public Law 75, 80th Congress.\(^2\) This early aid provided the initiative which set in motion the present roads improvement project. A group consisting of forward-looking general staff officers and other alert Turkish civilians working in the ministries saw this as

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\(^2\) This Act provided aid to Greece and Turkey. Of the $100,000,000 grant in aid provided for Turkey, $5,000,000 was allocated for highway equipment and technical help. Even though this money was provided prior to the period covered in this study, the actual purchases and shipments of the material, for the most part, arrived during these three years.
Table 11

Amount Spent by United States on Turkish National Highway System Project

By Source, Fiscal Years Ending June 30, 1948-1950 and Last Half Calendar Year 1950

<table>
<thead>
<tr>
<th>Year</th>
<th>Turkish Aid Program (Public Law 75, 80th Congress)</th>
<th>Economic Cooperation Administration</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>$ 2,991,967*</td>
<td>$ --</td>
<td>$ 2,991,967</td>
</tr>
<tr>
<td>1949</td>
<td>1,628,326**</td>
<td>22**</td>
<td>1,628,348</td>
</tr>
<tr>
<td>1950</td>
<td>150,427**</td>
<td>3,978,738**</td>
<td>4,129,165</td>
</tr>
<tr>
<td>Last Half Calendar Year 1950</td>
<td>150,000**</td>
<td>2,836,154**</td>
<td>2,986,154</td>
</tr>
<tr>
<td>Totals</td>
<td>$4,920,720**</td>
<td>$6,814,154**</td>
<td>$11,735,634</td>
</tr>
</tbody>
</table>

* Of this total, $651,176 represents the value of road equipment plus technical services which were transferred from the U.S. Army to the Turkish Government in 1947.

** These figures are based on goods actually purchased and shipped. They may not have been actually paid for by the "end" dates shown since there is a lag between goods purchased and shipped and their payment.

Source: Audits and Accounts Branch, Bureau of Public Roads, Department of Commerce.
an opportune time to break the static condition prevailing in their
country's highway affairs. They exerted pressure at certain high levels
of their Government to obtain the services of a group of United States
highway engineers to help in the immediate and long-range solution of
Turkey's highway needs. The cumulative effect of these events resulted
in the establishment of a Bureau of Public Roads mission to Turkey paid
for from the funds provided above as well as later funds which came from
ECA and MSA sources.\textsuperscript{25}

The first allotment amounted to $651,176 for construction equipment
and technical services which was spent by the U.S. Army in the early stages
of Turkish Aid. Most of the actual construction equipment was transferred
from the U.S. Army to the Turkish Government in late 1947. By the end
of 1950, nearly all of the $5,000,000 original grant had been spent on
equipment in actual use by the Turks as well as for various technical
services already provided. It has been estimated that approximately 60%
of the total went for equipment and 40% for technical services.

The second source of expenditures for the roads project came from
funds provided by the Economic Cooperation Administration. This organi-
ization estimated in 1948 that $18,500,000\textsuperscript{*} would be required for the
dollar financing of their portion of the roads improvement program.
Table 11 shows that $6,814,914\textsuperscript{*} of this total estimate had been actually
purchased and shipped by the end of 1950.

In order to obtain the total expenditures for the roads project
during the first three years, it is necessary to add a third source to

\textsuperscript{25} Cummings, \textit{Op. Cit.}, p. 3.

\textsuperscript{*} These figures include freight cost.
the above expenditures. By far the largest source of expenditures for the roads project is that supplied by the Turkish government. This so-called "local currency" expenditure is shown in Table 12. It is significant that the $55,071,429 spent by the Turks is almost five times the total U.S. aid for the period. This project, as viewed by the Turkish leaders as well as the majority of Turkish citizens, is the most important project of the entire foreign aid program. Its significance was aptly expressed by an American Public Roads official as follows: "From an inspection of the transportation situation in Turkey, I thoroughly agree with the conclusion that the establishment of an adequate highway system and its construction and proper maintenance in Turkey is a first essential to the lifting of the Turkish economy which is so largely based upon agriculture and other land and mineral resources."\(^\text{26}\)

Further significance is noted from the Turkish expenditures during this period. Table 12 illustrates the growth in enthusiasm by the Turkish Republic toward the roads project not only in the magnitude of the contributions but by the continued expansion of these expenditures during the period. Public interest and support of this project have been encouraging to American advisers.\(^\text{27}\) They have received continued assur-

\(^{26}\) Hils, H. E., "Letter to Mr. George Knutson, Industry Division, ECA", Correspondence File of Industry Division, Letter dated March 14, 1949, p. 3. Mr. Hils is the Deputy Commissioner of the Public Roads Administration (Bureau of Public Roads).

\(^{27}\) One of the returning advisers explained how the Turks would turn out in large numbers to witness progress on each new road receiving attention by the construction crews. He told how they would follow these road crews in every type of available vehicle imaginable from bicycles to broken down ancient jalopies. They seemingly could not wait to try the new road. Even though such enthusiasm frequently retarded the improvement of the new road, it was generally rewarding to the hard-working roads personnel.
Table 12

Amount Spent by Turkey on National Highway System Project in Turkish Lira and Dollar Equivalent,

Fiscal Years Ending February 28, 1949-1951

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Lira (To Nearest Million)</th>
<th>Dollar Equivalent*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>38,000,000</td>
<td>$13,571,429</td>
</tr>
<tr>
<td>1950</td>
<td>51,000,000</td>
<td>19,285,711*</td>
</tr>
<tr>
<td>1951</td>
<td>62,200,000</td>
<td>22,211,286</td>
</tr>
<tr>
<td>Totals</td>
<td>151,200,000</td>
<td>$55,071,429</td>
</tr>
</tbody>
</table>

*Official Exchange rate is 2.83 liras = $1.

Source: Audits and Accounts Branch, Bureau of Public Roads, Department of Commerce.
ance from Turkish officials that this trend will continue until the highway facilities are capable of handling the needs of their economy. There is some question, however, by some American experts as to the "ability" of the Turks to continue such an ambitious effort.28

The total expenditure from the three sources indicated in Tables 11 and 12 is $66,807,063. This figure represents the base upon which this section of quantitative economic analysis rests. The analysis which follows will attempt to determine a net annual return on this expenditure of $66,807,063 for the first three years of the roads project. If some quantitative "return" can be found which is directly related to the total expenditures expressed above, then perhaps a useful "ratio" can be developed which will measure in a rather rough, general way the quantitative results of the money expended on this particular project.

2. Total Returns or Gains to Turkey from Roads Project

In attempting to measure actual returns as a result of the roads program, the problem of finding a measurement is almost insurmountable. There are probably several quantities which could logically be used for such a measure. The increase in tons of all goods transported might be one possible quantitative gain reflected by roads improvement. Another measurement might be the reduced wear and tear of all vehicles using the

28 "Despite expressed intentions to do so, Turkey may not be able to carry on alone when American aid runs out because the program may be far from completion by that time and may still be too costly for the Turks to finance by themselves." (Kerwin, Op. Cit., p. 208.)
new roads. A third quantity might conceivably be the greater volume of sales of all commodities throughout the country resulting from this greater mobility and trade. It was finally decided, however, that the "reduction in freight rates" would serve as the best available measure reflecting—at least to some degree—the monetary gains created by the roads project. Data were available on the actual number of ton-miles of truck travel based on an average daily road count.

A traffic survey was planned and carried out in 1948 to determine volume, classification, weight, physical dimensions, and origin and destination of all vehicles using the national system of highways. This work was continued in 1949 and 1950, and traffic flow maps have been prepared. (See Chart 1) This survey showed 538,871 vehicle-miles per day as an average figure throughout the year 1950. The average size of the transport vehicle in Turkey in 1950 would approximate two and one-half tons. Thus the average "ton mile" per day figure was found to be 1,347,178. For the whole year of 1950, the total ton miles travelled amounted to 491,719,970. The traffic flow map (Chart 1) shows graphically this increase in volume of traffic between 1947 and 1950.

The next step in the analysis was to estimate the average reduction in cost per ton mile of truck transportation throughout Turkey during

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29 "As might be expected, these improvements in highway conditions have resulted in a marked increase in the life of motor vehicles. One of the leading Turkish firms operating truck and bus services between Ankara and other cities shows a doubling of the average life of its vehicles as a result of improved road conditions." (Cummings, Op. Cit., p.4)


31 An estimate made by the Asst. Deputy Commissioner, Bureau of Public Roads, based on his study and experiences with the Turkish transport situation.
the three year period. The average cost of freight in 1950 was estimated to be approximately six cents per ton mile as compared to the cost of thirteen cents per ton mile which existed in 1947.\textsuperscript{32} Table 13 is an example of the results obtained on a few main roads in Turkey for the years 1949 and 1951. Given the total ton miles of transport in Turkey in 1950 of 491,719,970 with an average saving of seven cents on each mile, the total gain (savings) to the Turkish economy amounted to $34,420,398 for the year 1950.

In order to obtain a net annual return which would be somewhat equivalent to the net return measure used by industry, the matter of depreciation on equipment had to be determined. A serious problem arose here because of the fact that expenditure data were not separated into components of equipment, technical services and maintenance. It was necessary, therefore, to estimate how much of the total expenditures was for services and how much for actual equipment. Approximately $40,000,000 represented the total spent for equipment of all kinds during the three years.\textsuperscript{33} In determining the average length of time this equipment could be expected to remain in service, the Bureau of Public Roads

\textsuperscript{32} In arriving at this estimate of six cents per ton mile in 1950, the Public Roads people in Turkey obtained figures for various roads throughout the country. It was discovered, for example, that on the Ankara-Konya road an actual reduction in transport rates from 20 cents per ton mile to 5 cents took place during the three year period. Other instances of less magnitude were recorded by the roads personnel. Mr. Arthur G. Siegle, Asst. Deputy Commissioner in the Bureau, felt that a 55% reduction would be close to the average on all roads and yet would be quite a conservative figure at that.

\textsuperscript{33} In a discussion with Mr. Arthur G. Siegle, Deputy Commissioner of the Bureau of Public Roads, on August 21, 1951, it was revealed that approximately 60% of the total expenditures for the roads program in Turkey went for equipment and the balance (40%) was spent for technical services and maintenance.
Table 13

Comparison of Required Travel Time and Rates per Ton and per Passenger for the Years 1949 and 1951

<table>
<thead>
<tr>
<th>Road from Ankara to</th>
<th>Travel time (Hrs. by Bus)</th>
<th>Rate Per Ton (T.L.)</th>
<th>Rate Per Passenger (T.L.)</th>
<th>Reduction (T.L.)</th>
<th>Per cent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Istanbul</td>
<td>18</td>
<td>14</td>
<td>120</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>Kayseri</td>
<td>11</td>
<td>9</td>
<td>45</td>
<td>30</td>
<td>8.5</td>
</tr>
<tr>
<td>Zonguldak</td>
<td>14</td>
<td>9</td>
<td>100</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Samsun</td>
<td>20</td>
<td>16</td>
<td>150</td>
<td>50</td>
<td>16</td>
</tr>
<tr>
<td>Konya</td>
<td>9</td>
<td>5</td>
<td>100</td>
<td>30</td>
<td>10</td>
</tr>
</tbody>
</table>

established, for purposes of depreciation, a seven-year equipment life for the Turkish roads program. One-seventh, then, of $40,000,000 ($5,714,286) was taken as the estimated annual depreciation allowance for the roads project.

The net annual return or gain to the people of Turkey, resulting from expenditures for roads improvement, would amount to a total of $28,706,112. ($34,420,398 less $5,714,286.) This estimated net return figure, which is based on the year 1950, expressed as a ratio of total expenditures from all sources ($66,807,063) is \( \frac{1}{43} \) per cent. This ratio of \( \frac{1}{43} \) per cent may be referred to as the Net Annual Return on Expenditures.

3. Significance of the \( \frac{1}{43} \) Per Cent Net Annual Return on Expenditures

Probably the most striking thing about a \( \frac{1}{43} \) per cent net annual return on expenditures is that the total expense of building roads over a three year period in Turkey will be returned to the economy through savings in freight costs alone in a little over two years. In other words, almost half of the total expense of the Turkish Highway System was recovered, in effect, by the people of Turkey during 1950.\(^3\)

Perhaps a conclusion can be drawn from this ratio concerning the over-all efficiency of these expenditures for roads. Notwithstanding the fact that the ratio might have been even higher if the over-all program had been handled differently, nevertheless the "direct" measurable

\(^3\) In December, 1952, the author had occasion to talk with various people at the Bureau of Public Roads in Washington and they expressed the belief that the Turks had more than regained all of the expenditures made during the first four years of the project as a result of the lowered costs of transport alone.
gains from this project appear to be rather substantial. Perhaps this rate of return of 43 per cent on expenditures is even more significant when one considers the fact that the reduction in freight rates, which became the source of this return, took place during an inflationary period in Turkey. If a general rise in prices had not taken place during this period, the ratio conceivably would have been larger.  

**Limitations of the Foregoing Analysis**

There are several reasons why the economic appraisal of the roads project is at best a very rough approximation or estimate of the full effectiveness of these expenditures on the economy of Turkey. Perhaps the main limitation lies in the duration of this study. One could hardly expect the full impact of this program to be felt to any degree of finality over a period of three brief years. The program is far from completed at this writing (1953) and as indicated earlier few of the roads have received more than the initial stage of construction. The full effectiveness of these roads is unlikely to be determined, therefore, until such time as final surfaces are completed and the full network is established. It is unfortunate that an appraisal of this sort must be undertaken at a time when construction is still going on, new roads being added to the system and new heavy construction equipment is arriving on the scene. An economic appraisal in 1960, for example,

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35 The findings of this economic analysis seem to bear out the conclusion of Mr. Thomas H. MacDonald, Commissioner of Public Roads, Department of Commerce, when he said, "It costs more not to build roads than to build them." In light of the direct benefits to Turkey resulting from roads improvement compared to the cost of those improvements, the statement appears to be particularly significant.
should produce much more substantial results and much greater accuracy than this current study. It is undoubtedly true, however, that any study of "process" runs head-on into this time limitation. In view of this fact, we must proceed with the information and data available at this time and arrive at whatever conclusions are possible at such an early date.

In attempting to measure the over-all impact of the roads program upon the entire economy, another serious limitation should be noted. It is doubtful whether the present system of roads under improvement constitutes a representative sample of the entire country. The major force of the construction effort has been placed where it will prove most effective in the shortest period of time. These selected sections were those in greatest need of improvement and were centered in areas most likely to result in greatly increased traffic volumes. The results of an economic appraisal now would thus tend to reflect this narrow concentration of effort where results would tend to be greater than from road improvement which will eventually be well-distributed throughout the remote areas of the country.

As an offsetting feature, however, the importance of military considerations should be mentioned. On certain major construction efforts, military necessity helped to dictate the area and the magnitude of expenditure. These military considerations, therefore, should result in road improvement less likely to produce the economic results comparable to those emanating from purely economic considerations.

A very significant limitation of this economic appraisal is the inadequacy and reliability of Turkish statistics. For generations, Turkey has experienced a complete lack of interest in statistical information.
Carefully compiled statistical data on various governmental programs have been almost non-existent. One reason for this probably stems from the financial responsibility laws which hold governmental authorities financially responsible for errors in judgment which result in losses to the government. It was most expedient, therefore, simply to refuse to keep records which might eventually be used against you.

Turkish officials are slowly beginning to realize the handicap of inaccurate or unavailable statistics. New emphasis has been given to this problem and several Turkish citizens are now in the United States studying techniques for collecting, assembling and analyzing statistical information. In spite of this rather recent recognition of the need for statistics, accurate and detailed data of the type and quantity required for a more detailed and exact assessment of the economic impact of this program on the Turkish economy simply are not available at the present time.

Brief reference was made earlier in this chapter to the lack of "cost" consciousness on the part of the Turkish people. "Cost accounting is in its early and somewhat experimental stages in most of the institutions comprising the Turkish economy."36 It would be useful for the reader to remember this fact when figures are shown for the "costs" (expenditures) to the Turkish nation for roads improvement. If one simply considers these figures to be rather general approximations—and nothing more—then at least a common understanding will have been established in respect to the reliability of cost figures.

Finally, the rate of accomplishment of the roads project during the first three years of its existence should be listed as a definite limitation if this rate of return is used to estimate future rates of development. This rate of return, which is determined in the following analysis, may constitute a considerably higher or lower rate than will be maintained in the future. The many problems faced by the Turks and discussed throughout this entire study tend to place serious limitations on any attempt to predict future rates of accomplishment.

Persons working closely with the Turkish situation, Americans and Turks alike, frequently register serious doubts as to whether continued development of projects can be maintained at their present rates when American aid terminates and Americans cease to be concerned with the many Turkish problems. Future rates of accomplishment depend almost wholly upon whether the Turks themselves are able to make the fullest possible use of their manpower, the new methods they've learned, and the materials and equipment made available to them. This involves the solution of a veritable maze of political, economic, religious and social problems which have been suggested throughout the foregoing chapters.

Perhaps the most serious limitation of the method used in the foregoing section of this study is the attempt to develop a measure of efficiency comparable to that used in business. Serious question could be raised as to the efficacy of such an approach. Certainly the development of a highway system has little in common with a private business venture. Furthermore, the measures selected in the foregoing quantitative

37 Ibid., p. 4.
analysis (gain on expenditures) are at best a far cry from the measures referred to in business circles as return on investment. It would appear, therefore, that in attempting to measure the efficiency of a roads development program in quantitative terms, perhaps an entirely different method of analysis should be developed independent of the tools of analysis used in the business world. If this were done, however, the question might be raised as to the ability of the majority of people to understand the significance of new measures completely unrelated to thought patterns already well established and widespread. The main reason for the method in the foregoing analysis, therefore, is that it is more quickly understood and easier to appraise because it is somewhat related to rather popular tools of analysis in widespread use for many years.

A rather serious limitation stems from this use of business methods for determining the efficiency of a roads project. As indicated in the preceding analysis, a gain or return of 43 per cent on expenditures might cause someone, by mistake, automatically to associate this rate with some particular "standard" of efficiency widely accepted in the business world. For example, if a 10 per cent annual return on investment were considered normal today on the average in a certain type of business, then this 10 per cent return might be used by some as a point of reference for comparison with the 43 per cent gain on expenditures of the Turkish roads program. Such a procedure would tend to provide an unrealistic and erroneous comparison. These two measures cannot be compared because of their heterogeneous nature.
A major criticism of the methods employed in the foregoing analysis was made by Mr. Siegle.\textsuperscript{38} He pointed out that if one were to approach the problem of "returns" to a system of roads on the same basis as one would analyze the return to a business enterprise, the results would not be useful or significant. Mr. Siegle emphasized the divergence between "investment" in the business sense and the figure referred to in this analysis as "expenditure". When a roads system is improved, as in the case of Turkey, a tremendous investment in plant already exists and cannot accurately be measured. When the roads project got under way in 1947, there already existed a right-of-way of indeterminate value. The structure of the road-beds throughout the system, no matter what their state of repair, represented a "plant" composed of years of sunken investment. With this idea in mind, it would be incorrect to assume that the money spent on roads from 1947 to 1950 would even vaguely resemble the business term investment. Actually, according to the above theory, most of the expenditures during this period would be a mere "maintenance" with some "improvements" of the already existing investment.

It would be more logical, according to Mr. Siegle, first to determine the expenditure of funds for the year 1950. More specifically, this figure would be confined to those funds actually consumed that one year. It would include funds used for road maintenance, road improvements, technical services and miscellaneous expenses. Road equipment, construction facilities and spare parts, on the other hand, would be

\textsuperscript{38} Mr. Siegle, Asst. Deputy Commissioner of Roads, has been concerned with the same problem of measuring the returns resulting from the roads project. He has worked out a somewhat different quantitative analysis from that appearing in this chapter.
excluded from this figure since they will be used to contribute directly to future returns and only incidentally to 1950 returns. Mr. Siegle's return ratio, based on this different approach, was found to be 136.5% for the year 1950. This was determined by using the figure $34,420,398 as the return and $25,214,286 for the expenditures actually consumed that same year.

Perhaps another limitation should be pointed out in connection with the figure used in the above analysis as the return or gain to the Turkish economy. The figure used to represent the return, in the foregoing quantitative analysis was based on "reduced freight cost". The underlying assumption was that the reduced freight cost of seven cents per ton mile was due entirely to the expenditures for roads. One can realistically contest the accuracy of an assumption that reduced cost of transportation is the exclusive result of the improvement of roads. It could be pointed out, for example, that the increased volumes and improved quality of trucks was the major cause of this "return" to the Turkish economy. For example, Table 14 shows such an increase in selected provinces throughout Turkey. Furthermore, a good case could probably be established for the increased competition as the major cause of freight rate reductions. Many new trucking firms have been created throughout Turkey which adds to the competition of the older firms. An equally convincing case could probably be made for the greater volume of goods hauled as a principal reason for lower truck rates. New techniques of packaging and handling have surely contributed to this savings by the Turks.

In spite of all these arguments, however, the fact remains that if it were not for the American aid expenditures on the roads in the first
Table 14

Number of Motor Vehicles Registered

By Selected Provinces, in Turkey, 1947 and 1950

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Istanbul</td>
<td>2,052</td>
<td>195</td>
<td>1,020</td>
<td>4,495</td>
<td>346</td>
<td>2,677</td>
</tr>
<tr>
<td>Konya</td>
<td>47</td>
<td>48</td>
<td>263</td>
<td>86</td>
<td>81</td>
<td>436</td>
</tr>
<tr>
<td>Elazig</td>
<td>27</td>
<td>11</td>
<td>111</td>
<td>35</td>
<td>5</td>
<td>98</td>
</tr>
<tr>
<td>Adana</td>
<td>135</td>
<td>53</td>
<td>257</td>
<td>256</td>
<td>81</td>
<td>339</td>
</tr>
<tr>
<td>Izmir</td>
<td>387</td>
<td>142</td>
<td>430</td>
<td>950</td>
<td>318</td>
<td>759</td>
</tr>
<tr>
<td>Samsun</td>
<td>78</td>
<td>36</td>
<td>175</td>
<td>114</td>
<td>60</td>
<td>185</td>
</tr>
<tr>
<td>Trabzon</td>
<td>49</td>
<td>32</td>
<td>205</td>
<td>103</td>
<td>66</td>
<td>339</td>
</tr>
</tbody>
</table>

place, the new roads would likely not be in existence and no appreciable reduction in freight cost would be realized by the people of Turkey. It would appear, therefore, that there is at least some justification for attributing the "returns" resulting from lower freight costs to the expenditures for roads improvement.

Summary

Roads and highways in Turkey have been seriously neglected until the advent of American aid in 1947. During Ataturk's reform movement little was done to improve the primitive road system which, in turn, tended to retard the economic development of the country. An efficient highway system is vitally needed in Turkey to develop the rich agricultural lands which lie in the interior of the country. Turkey must cease to concentrate all her attention on the coastal areas, as in the past, if she expects to exploit her full economic potentialities. Improved transportation facilities extending inland to the most remote sections of the country will provide the necessary integration needed for an expanding economy.

Agriculture is likely to be the largest recipient of the gains to be derived from this improvement. This stems from the fact that it is by far the most important sector of the economy. Improved agriculture will, in turn, produce added benefits to all the industries in Turkey. Probably one of the most important benefits derived from agricultural improvement will be the resulting increase in exports and the greater foreign exchange which will result. Industrial commodities, greatly needed by Turkey in her industrialization program, can thus be obtained most efficiently by this technique of greater production and market-
ability, both at home and abroad, of all sorts of agricultural commodities. This greater efficiency of agriculture, however, is dependent upon an improved road and highway system which was begun by foreign aid in 1947. The highway improvement project discussed in the foregoing analysis, therefore, is one of the most important projects of the entire American aid program.

The fact that the Turkish highway system project is expected to pay for itself, in terms of reduced freight cost, in a little over two years attests the effectiveness of this project to accomplish the main purpose for which it was planned; namely, to improve the mobility of resources within the country and in international trade. The significant increase in freight movement during the first three years point to rather pronounced increases in agricultural and mineral resources for export in the future. Surely the spoilage of farm products resulting from insufficiency of transportation will be drastically reduced. It is likely that substantial increases in mineral production can be carried out now that one of the major bottlenecks to that industry has been reduced (i.e., an inadequacy of transportation).

In general, the quantitative results outlined above would seem to point toward rather optimistic possibilities throughout the entire institutional pattern of the economy. Before too much enthusiasm is developed, however, perhaps we should analyze the actual "production" situation and its over-all efficiency. Perhaps there are many problems here which will tend to dampen the enthusiasm resulting from the foregoing quantitative analysis. Let us now turn to the so-called "production" projects sponsored by American aid before any final conclusion is drawn in respect to Turkey's future progress in the fields of domestic and foreign trade.
CHAPTER VII
DEVELOPMENT OF COAL MINING FACILITIES IN TURKEY

Coal is the major source of power in Turkey at the present time. Oil production is negligible but there appears to be some hope of its increased exploitation in the future. Water power development, through new hydroelectric power plants, is now in the construction stages. It is expected, however, that in spite of the increase in other forms of power, coal will remain the chief resource of Turkey for mechanical energy for many years to come.

The production of bituminous coal in Turkey is confined, almost exclusively, to the region along the coast of the Black Sea known as the Zonguldak basin. This basin is located about 125 sea miles east of Istanbul and extends approximately 30 miles west of Zonguldak to the city of Eregli and about 40 miles east of Zonguldak to the city of Amasra. The Zonguldak coal fields penetrate inland from the seacoast only three miles at one point to a maximum of 30 miles at the other extreme. This potentially rich coal field was first discovered in 1829 and mining was begun by the Turkish Admiralty in 1848. During the Crimean War, the British Navy purchased coal from this field for its operations in the Black Sea. During the last half of the Nineteenth Century, only about 50,000 tons of coal were mined annually.¹

¹ Dorr, Russell H., Report on Zonguldak Coal Mines Project, Economic Cooperation Administration, Washington, D.C., p.5. Mr. Dorr was the Chief of the Special Mission to Turkey from 1948 to 1952.
More recently, the Zonguldak coal mines project, sometimes referred to as the Eregli Coal Establishment, "constitutes the Eti Bank's largest operation; indeed, it is the largest single industrial or mining project in all Turkey." The estimated coal reserve within the boundaries of the explored area in the Zonguldak basin is 720 million tons and over a billion tons are estimated for the entire coal basin. These coal mines contain approximately 52 separate coal veins or seams which are unequally divided between lower, middle, and upper carboniferous coal beds. Those veins which are currently producing vary between one to six meters in thickness and the "dip" of these seams varies from a horizontal up to ninety degrees vertical.

The project designed long ago in connection with the development and production increase of the Zonguldak Coal Basin has been put into execution through the aid furnished by the United States of America. The project aims at two goals, (1) increase of production and (2) reduction of production costs by increasing output. A third major objective of this development program is the substantial improvement in the quality of the coal produced. Inadequate washery equipment coupled with inefficient mining techniques have resulted in lower quality coal than that which is possible to be produced by the Zonguldak mines.

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4 Ibid., p. 85.

5 Washery equipment consists of large machines through which run-of-the-mine coal is processed in order to remove as much of the impurities as possible.
In 1948, the Economic Cooperation Administration (Mutual Security Agency) agreed with the Turks that this development project at Zonguldak should receive top priority, in terms of total grants or expenditures, in the entire Turkish foreign aid program. The Zonguldak coal project is expected to cost TL 275 million (both Turkish funds and foreign aid) when completed and is "probably the largest investment project ever undertaken in Turkey." Increased coal production is needed not only to supply a rapidly expanding need for power by the growing industrialization of Turkey, but should also serve to support a rather profitable export trade in the future.

Status of Turkish Coal Production Prior to Foreign Aid (1948)

The large-scale modern development of the coal mines at Zonguldak began after the formation of the Turkish Republic in 1923. Annual coal output increased from about a half million tons annually at the turn of the century to one million tons during the Atatürk regime. By 1937, total marketable production had reached 1,522,439 tons. At this time, twelve companies of various sizes were engaged in mining coal. A French company mined over half of all coal extracted; the remainder was produced by an Italian company, a French-Turkish company, and nine Turkish companies.

In 1937, the Turkish government began the task of purchasing these private companies in line with its policy of etatism mentioned earlier in this study. In that year, the French company was reimbursed on the basis of the book value of the surface installations minus depreciation.

Coal, in developed portions of the mine, was compensated at 45 per cent of the average profit per ton mined during the previous five years. By December of 1941, the government had taken over the other nine private companies through approximately the same formula.

Under government ownership, long-range plans for efficient unification of all the separate coal fields was undertaken through the establishment of a Research and Planning Division. Surveys were instituted in regard to various aspects of mining, transportation, washing facilities, power requirements and labor conditions. Various European and American engineering firms were called in to make specific surveys or to examine and review the over-all plans developed by this Division. In addition, a commission of Turkish experts was sent to the United States to examine various coal mining installations.

These studies resulted in the adoption of significant measures for modernizing the mines, consolidating activities and increasing productive efficiency. The number of mines being worked, for example, was reduced from 31 in 1941 to only 12 in 1948. On the other hand, total production increased from 3,019,000 tons of unwashed coal to 4,025,000 tons during this same period. "The average production per day, per mine, increased from 314 tons in 1941 to 1,082 tons in 1948. This increase of over one million tons annual output resulted almost entirely from increased efficiency and rationalization of production, as the labor force was not increased, and it was also difficult to effect major purchases of equipment or even to obtain normal replacement parts during these years."7

Not only was production increasing substantially during the period from 1933 to 1948, but a correspondingly significant increase was also taking place in the internal consumption of coal in Turkey. Table 15 shows these increases and also indicates the change which took place in coal exports. It is significant that the increase in internal consumption took place at the expense of the foreign export market. For example, it is noted from Table 15 that production increased approximately 85 per cent between 1933 and 1948 while internal consumption increased almost 183 per cent during the same period. Such a rapid rate of internal consumption was possible only by drastic reduction of foreign exports of coal. Turkish coal exports in 1948 were only 1,000 tons which is a fraction of one per cent of the total exported in 1933. Furthermore, Turkey's export of coal during the war years was stopped completely thereby preventing the accumulation of foreign exchange to meet the post-war trade balance deficits of the country.

By 1942, the increase in the domestic demand for coal had become so great, the government was compelled to adopt an allocation and rationing system which is still in effect. Under this system, the supplies going to both industry and to households were severely limited. Particularly severe limitations were placed on industrial consumption by the Coal and Selling Distribution Office which operates this rationing system. By 1948, the time of American aid, industrial allocations were 213,000 tons less than the requests made for coal by the industries of Turkey.
Table 15

Marketable Production, Internal Consumption, and Exports of Coal for Turkey for Each Year From 1933 to 1948 in Metric Tons

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Internal Consumption and Stocks</th>
<th>Exports Including Foreign Bunkers</th>
<th>Total Marketable Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1933</td>
<td>907,916</td>
<td>479,360</td>
<td>1,387,276</td>
</tr>
<tr>
<td>1934</td>
<td>1,020,834</td>
<td>692,266</td>
<td>1,713,100</td>
</tr>
<tr>
<td>1935</td>
<td>1,033,514</td>
<td>749,960</td>
<td>1,783,474</td>
</tr>
<tr>
<td>1936</td>
<td>1,000,170</td>
<td>570,868</td>
<td>1,571,038</td>
</tr>
<tr>
<td>1937</td>
<td>1,195,316</td>
<td>327,123</td>
<td>1,522,439</td>
</tr>
<tr>
<td>1938</td>
<td>1,287,107</td>
<td>355,849</td>
<td>1,642,956</td>
</tr>
<tr>
<td>1939</td>
<td>1,575,444</td>
<td>202,115</td>
<td>1,777,559</td>
</tr>
<tr>
<td>1940</td>
<td>1,915,170</td>
<td>32,561</td>
<td>1,947,731</td>
</tr>
<tr>
<td>1941</td>
<td>1,836,287</td>
<td>12,048</td>
<td>1,848,335</td>
</tr>
<tr>
<td>1942</td>
<td>1,676,234</td>
<td>------</td>
<td>1,676,234</td>
</tr>
<tr>
<td>1943</td>
<td>1,954,273</td>
<td>------</td>
<td>1,954,273</td>
</tr>
<tr>
<td>1944</td>
<td>2,173,498</td>
<td>------</td>
<td>2,173,498</td>
</tr>
<tr>
<td>1945</td>
<td>2,333,124</td>
<td>------</td>
<td>2,333,124</td>
</tr>
<tr>
<td>1946</td>
<td>2,251,240</td>
<td>198,904</td>
<td>2,450,144</td>
</tr>
<tr>
<td>1947</td>
<td>2,421,968</td>
<td>113,032</td>
<td>2,535,000</td>
</tr>
<tr>
<td>1948</td>
<td>2,564,000</td>
<td>1,000</td>
<td>2,565,000</td>
</tr>
</tbody>
</table>

Importance of Coal Development

One of the most important reasons for improved coal production lies in the critical shortage of coal for industrial use. Coal is the major energy source for the generation of electricity in Turkey. Of the total output in kilowatt-hours, coal accounts for 78.2 per cent, lignite for 10.3 per cent, water power for 4.5 per cent, fuel oil for 44.4 per cent and wood and miscellaneous for 2.6 per cent. Because of the coal shortage in Istanbul during February (1949), some factories reduced their operations, particularly the glass plant at Pasabalice where the automatic machines were forced to stop, and some textile plants of the Sumer Bank suspended or slowed down their dyeing operations.

Approximately 80 per cent of the electricity generated in Turkey is absorbed by industry. Of this total, 75 per cent is used by three industries—textiles, coal and lignite mining, and iron and steel production. The small private industries of Turkey are, therefore, particularly hard pressed as a result of the coal shortage. Moreover, as long as the scarce supplies are being allocated primarily to government-owned plants, little hope can be held for the expansion and development of private industry throughout Turkey.

In the absence of sufficient coal to provide adequate electric power for Turkish industries, primitive techniques of "power" sources must be utilized. In almost every town there are grain mills, water wells, and various small industries which must resort to medieval devices operated

by gear wheels which are harnessed to oxen or donkeys. In agriculture, these primitive techniques are used, even on prosperous farms and orchards, as the only means of power to irrigate the land. Frequently, an electric power line may pass the property but cannot be utilized because of the shortage of electric power resulting from inadequate coal supplies. "In Ankara the new trolley-bus system must come to a halt when the lights go on, and similar shortages exist in Istanbul and Izmir. There is no surplus for industrial expansion. In the smaller cities the capacities of the plants are so small that no industrial load of any consequence could be carried." 11

In 1949, the Coal Sales and Distribution Office requested information from various industries throughout Turkey as to the estimates of their needs through 1952. Table 16 shows the actual consumption for 1947 and 1948 and the expected needs for 1952. It is noted that in a number of those industries reporting, the 1948 consumption was smaller than in 1947. This was usually the result of drawing down stocks rather than actual reduced consumption. 12

Table 16 illustrates the growing need for improved coal production in Turkey for the industrial sector of the economy. Data on actual coal production for 1952 are not available at this time. However, coal production amounted to 2,987,846 tons of salable coal in 1951 as compared with 2,824,000 tons in 1950. The Eti Bank's conservative estimate for 1952 production is 3,067,000 tons of salable coal. 13 This is considerably

11 Ibid., p. 133.
## Table 16

**Turkish Internal Coal Consumption for the Years 1947 and 1948**

and the Projected Estimates for the Year 1952

*(Metric Tons)*

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Actual Consumption 1947</th>
<th>Actual Consumption 1948</th>
<th>Estimated Consumption Needs for 1952</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Railways</td>
<td>397,222</td>
<td>702,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Karabuk Steel Works</td>
<td>393,306</td>
<td>413,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Sumer Bank Factories</td>
<td>106,535</td>
<td>115,000</td>
<td>160,000</td>
</tr>
<tr>
<td>State Seaways</td>
<td>237,382</td>
<td>231,000</td>
<td>350,000</td>
</tr>
<tr>
<td>Anadolu Cement Factory</td>
<td>25,512</td>
<td>29,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Zeytinburnu Cement Factory</td>
<td>29,795</td>
<td>29,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Dorica Cement Factory</td>
<td>7,155</td>
<td>18,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Sivas Cement Factory</td>
<td>28,281</td>
<td>29,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Sugar Factories</td>
<td>44,821</td>
<td>58,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Glass and Bottle Factories</td>
<td>17,600</td>
<td>19,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Monopolies</td>
<td>13,714</td>
<td>17,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Fethiye Chrome Mines</td>
<td>4,225</td>
<td>4,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Ergani Copper Works</td>
<td>8,033</td>
<td>8,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Military Factories</td>
<td>45,572</td>
<td>40,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Military Establishment</td>
<td>8,223</td>
<td>10,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Navy</td>
<td>38,112</td>
<td>56,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Bunker Coal Domestic</td>
<td>47,531</td>
<td>48,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Istanbul Water Works</td>
<td>18,718</td>
<td>18,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Istanbul, Household and Little Industries</td>
<td>103,464</td>
<td>93,000</td>
<td>200,000</td>
</tr>
<tr>
<td>Izmir, Household and Little Industries</td>
<td>27,258</td>
<td>23,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Mersin, Household and Little Industries</td>
<td>25,983</td>
<td>21,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Ankara, Household and Little Industries</td>
<td>5,759</td>
<td>5,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Others</td>
<td>59,318</td>
<td>72,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Beyoglu Gas Works (Istanbul)</td>
<td>43,131</td>
<td>51,000</td>
<td>70,000</td>
</tr>
<tr>
<td>Istanbul Power and Gas</td>
<td>184,021</td>
<td>198,000</td>
<td>260,000</td>
</tr>
<tr>
<td>Ankara Power Plant</td>
<td>44,007</td>
<td>42,000</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,265,608</strong></td>
<td><strong>2,349,000</strong></td>
<td><strong>3,550,000</strong></td>
</tr>
</tbody>
</table>

below the estimates of need as indicated in Table 16 for industries, al-
alone, throughout Turkey. In other words, if all of the current coal
production were allocated to industries, there would still be insuffi-
cient quantities to meet their demands.

The growing demands for coal by householders in cities and villages
have also kept pace with the increased demands by industry. The rations
for household use appear to be highly inadequate throughout Turkey and
have been the source of widespread popular discontent and unfavorable
press comment. In Istanbul, a city with a winter comparable to that
of New York City, the household consumer receives between one-half and
two tons of coal per year depending on the size of his home. In Ankara,
where the winters are considerably more severe, the ration is increased
to between one and three tons.

The shortage of the domestic supply of coal has created the widespread
use of more expensive substitute fuels. Firewood, as a source of fuel
for example, has been increasing at an alarming rate in spite of sharply
rising prices. The following firewood consumption data throughout
Turkey from 1938 to 1948 reflect this trend:

<table>
<thead>
<tr>
<th>Year</th>
<th>Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>1,403,000</td>
</tr>
<tr>
<td>1940</td>
<td>1,724,000</td>
</tr>
<tr>
<td>1942</td>
<td>1,393,000</td>
</tr>
<tr>
<td>1944</td>
<td>1,169,000</td>
</tr>
<tr>
<td>1945</td>
<td>3,033,000</td>
</tr>
<tr>
<td>1946</td>
<td>3,094,000</td>
</tr>
<tr>
<td>1947</td>
<td>3,759,000</td>
</tr>
</tbody>
</table>

1\textsuperscript{11} A member of the staff of the ECA Mission whose house, like those of
the majority of Turks, is heated with stoves, has found it impossible ade-
quately to heat his house using more than double the official ration for a
house of the type involved. Constant attacks by the press have been made
against the government because of this critical coal shortage. (Dorr, Op.
Cît.p.12).

15 Ibid.
It will be observed that the use of firewood has nearly tripled since 1938. Prices, during this same period, have increased approximately four times. Moreover, forestry officials claim that these figures considerably understate the actual increase in consumption because of the substantial increase in the unauthorized cutting of timber. "During recent years, firewood has become a bootleg commodity, and it is generally agreed that a substantial and increasing amount is cut illegally."\(^{16}\)

It is particularly significant that this increased consumption of firewood took place despite the great price penalty. In Ankara, for example, a ton of coal sells at retail for TL 35 whereas a ton of firewood will cost between TL 70 and 80. Furthermore, firewood has no more than 40 per cent of the heating value of coal which makes the price per unit of heat six times that of the same unit provided by coal as the source of energy.

Substantial increases have also been noted in the use of charcoal. This new trade in firewood and charcoal has caused indiscriminate cutting of Turkey's rather severely limited and already depleted forest reserves and is causing considerable concern to authorities interested in the conservation and rational use of natural resources. Furthermore, the building industry is beginning to feel the impact of the coal shortage through a growing shortage of domestically produced lumber. Increased prices of building materials may, in part, be the result of the coal shortage which has created the need for more wood as an energy source.

Demands by agriculture for increased coal have kept pace with the growing need for this energy source in both industry as well as in the

\(^{16}\) Ibid.
homes throughout Turkey. As greater mechanization and general economic improvement takes place on farms, new demands are made for both coal as well as electric energy. For generations, the peasant farmer has had to utilize animal dung as the only major source of energy available. Such a practice is still going on throughout most of the farms of the country and has resulted in poor and exhausted soils which are thus deprived of the natural fertilizer needed for increasing agricultural output. It is very significant, therefore, that the coal shortage throughout Turkey has resulted in important injurious side effects on both forestry and agriculture.

Increased coal production would not only make possible increased electric power generation in already existing thermal power plants, but conceivably could pave the way for increased thermal capacity throughout Turkey. This in turn should have important repercussions in industry, in agriculture and in the households of Turkey. Increased thermal capacity should relieve the pressure from other sources of fuel such as those mentioned above. As long as the present coal shortage exists, however, little would be gained by adding new thermal capacity since there would be no source of energy available to utilize this new capital equipment. The coal shortage has been the major cause of restricted electric power which in turn has served as one of the important reasons for the slow progress toward Turkish industrialization in recent years. The need of the Turkish people for efficient motive power is scarcely less urgent than their need for good roads, improved agriculture, and greater international trade. In fact, these necessary improvements are inextricably bound together in the over-all economic development program of the Turkish economy.
The possibilities in the field of international trade which should result from increased coal production of higher quality and lower cost cannot be overlooked. Obviously, as long as the critical coal shortage exists, any substantial increase in coal exports would merely serve to compound the current coal shortage for domestic use. Nevertheless, many advantages would seem to result from increased concentration on the export market for coal by the Turkish government.

Table 15 indicated the significance of coal exports between 1933 and 1936. During this period, Turkey exported between 480,000 and 750,000 tons annually. These exports went to Italy, Greece, France, Algeria, Morocco, Tunisia, Malta, Syria, Egypt, Rumania, Bulgaria and Hungary. "In appraising the significance of these exports, it should be recalled that in the early 1930's, coal was in very plentiful supply in European and world markets, and that the industry in one of the world's largest exporting countries, the United Kingdom, was so prostrated by lack of market that its condition became known as a synonym for depression. Nevertheless, during these years Turkey was able to export very substantial amounts of coal." 17 Of course, these exports by Turkey were at the expense of domestic uses of the coal. Moreover, these increased exports came about as a result of Turkey's desire to prevent a deficit in her trade balance.

Evidence in 1953 seems to point to the fact that there is a critical shortage of coal in certain parts of the world and that increased demands

17 Ibid., p. 18.
for coal are not resulting in comparable increases in the world supply. Therefore, it appears that Turkey should have little difficulty selling any amount of coal she might have available for the export market. Moreover, it is of added significance that coal is currently selling, in many ports of the Mediterranean, at a price of approximately $20.00 per ton. Recent estimates indicate that Turkey should be able to export as much as 500,000 tons of coal during 1953 providing there are available facilities for shipping this coal. Such an effort would probably provide as much as $8,000,000 more foreign exchange to finance Turkey's current trade deficits. In 1952, the MSA Mission in Ankara reported that if the present equipment on order is put into use, the Turks estimate that they will be able to export 750,000 tons in 1956.

Perhaps the type and quality of Zonguldak coal should be mentioned in this discussion of the export possibilities of Turkish coal. The present improvement project going on at Zonguldak aims at the installation of modern washeries which will turn out a type of coal markedly superior to the coal produced at Zonguldak during the 1930's. Furthermore, many of the countries of Europe, particularly Italy, desire short-flame coal for steam purposes. This particular type of coal is indigenous

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18 Bailey, William, Asst. Chief of the Coal Branch, MSA/Washington. In a conversation with Mr. Bailey in December 1952, it was indicated that world prices of certain grades of coal were approximately $20 per ton in many of the Mediterranean ports.

19 Mutual Security Agency, Washington, D.C. Information supplied by various officers in the Southern Areas of Europe Branch in December 1952. This information was obtained from reports from the MSA mission in Ankara during 1952.

20 It is noteworthy that recent purchasers of Zonguldak coal in France and Switzerland have expressed satisfaction with the quality of coal supplied from the Zonguldak mines. (Dorr, Op. Cit., p. 19.)
to Turkey. In addition, Zonguldak coal has been found to be especially suited for metallurgical coking purposes in blast furnaces of steel plants and in copper smelting. The Office of European Economic Cooperation (OECC) Coal Committee believes there is likely to be a rather severe shortage of coking coal throughout Europe in the future. If such a prediction materializes, there is little doubt as to the marketability of the low-volatile Zonguldak coal which, experience has demonstrated, has a high coking quality.

Not only will improved coal production, greater exportation of coal, and increased foreign exchange help the economy of Turkey; it should also serve to strengthen the economies of other countries at the same time and thus permit Turkey to make a substantial contribution to European recovery and development. Italy, for example, has developed a long-term program which calls for increasing her exports of machinery and equipment from $122,500,000 in 1948-1949 to a total of $250,000,000 in 1952-1953. The country may find some difficulty locating markets for such a large increase in machinery exports because of competition with other producers of similar equipment. The fact that Italy also proposes to increase solid fuel imports from $100,000,000 in 1947 to $207,000,000 in 1952-1953 would seem to suggest a very definite mutual advantage for careful consideration by the governments of Italy and Turkey. Furthermore, Turkey has been experiencing an annual trade deficit of about $5,000,000 with Italy. Increased coal production by Turkey would seem to be the logical answer to the trade problems of both countries.

Austria and Switzerland have experienced similar shortages of solid fuels and since they are predominately manufacturing countries, each of them might find trade with Turkey to be mutually beneficial. In fact, a
representative of the Austrian Government recently suggested a long-term agreement with Turkey for the exchange of Austrian equipment and other finished goods for coal from the Zonguldak mines. This official expressed the fact that Austria was eager to discontinue the purchase of Polish coal. Brazil has also made overtures to Turkey for the resumption of trade similar to that which existed during the 1930's. During this period, Turkey supplied large quantities of coal to Brazil in exchange for coffee and other products.

Unless substantial work is undertaken to permit access to new seams and unless the outworn and obsolete mining and washing equipment is replaced, the Zonguldak mines cannot continue to produce even at their present insufficient rates. In the Turkish ministry report of September 15, 1948, the following statement was made. "It is impossible to keep up or to increase the present marketable production of 2,560,000 tons without replacing almost the whole of the various existing installations. It is also necessary to introduce an underground electro-mechanization in order to increase the individual output and to decrease the production cost." It has become increasingly clear, therefore, that "the coal project is not only desirable but essential."

Major Problems Faced by American Advisers

As indicated earlier, two of the most serious problems in production of coal at Zonguldak are inadequate washing and transportation

facilities. For example, the loss of coal because of defective washing in 1947 was estimated to be 36% of the total raw coal production. When new washeries are installed and in operation—sometime in 1953—the loss is expected to be around 26 per cent of total raw coal production. This is not only a very substantial improvement but it also compares favorably with coal-washing loss experience in the United States. For example, a member of the Coal Branch of the Economic Cooperation Administration indicated that the average loss due to washing in the United States would probably be around 20 to 22 per cent.

The problem of inferior washing equipment, faced by the American advisers when the present project was begun in 1948, also revealed a second problem. Inferior washing methods have not been able, in the past, to remove or reduce substantially the ash content from the coal. Zonguldak coal is characteristically high in ash content—sometimes as high as 32 per cent ash and has frequently been unsuitable for coking. Modern washeries are better equipped to remove this ash from the coal and increase the coal's adaptability to all types of cokeries.

Obsolete loading and handling equipment at the mines has also tended to compound the problems of the American advisers. Outmoded handling of coal tends to result in excessive breakage of the coal. The difficulty of removing the ash content, in turn, is substantially intensified when the coal is broken in this way. Zonguldak coal is very friable and must be handled at a minimum if serious breakage is to be pre-

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vented. New equipment on order and some already installed is designed to completely revolutionize the techniques of handling, washing, loading, and transporting this Zonguldak coal. The resulting larger sizes of coal should be very easily separated from the ash impurities and will, therefore, produce a higher quality coal which may be adapted to a greater number of uses.

The American advisers recognized, at the outset, that improved transportation methods and facilities would be necessary in order to reduce the cost of coal to both the domestic and foreign consumers. In spite of the "natural advantage" afforded by the proximity of Zonguldak coal to the sea, much of the Zonguldak coal was being shipped by rail when the improvement project was begun in 1948—about 35 per cent. The following figures will reflect the inefficiency of rail transportation in relation to water transportation.

![Coal Freight Rates](image)

In view of these transportation cost differences, the need for harbor improvement, including the construction of a sheltered port, adequate wharves, and cargo handling equipment, resulted in the immediate development of a set of over-all plans encompassing this whole phase of the

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27 Ibid.
project. A number of European and American engineering firms submitted a set of plans and after careful consideration, a European firm's plans were selected for Zonguldak harbor improvement. The American advisers also recognised, at the outset, the importance of improved transportation from the coal fields to the harbor at Zonguldak. This would involve new roads, new trucks and equipment, and additional rail facilities.

The ever-present personnel problem which has been one of the most perplexing problems of the entire American aid program, was no less serious in the Turkish coal project at Zonguldak. There has been no serious shortage of workers who actually do the coal mining at Zonguldak because of large quantities of migrant farm labor in the area. The serious problem facing the American advisers, however, was the lack of managerial personnel. One writer expressed the problem so aptly when he wrote, "While there is no shortage of labor supply in general, scarcities appear quickly and progressively as one goes up the scale."28

The shortage of efficient managers at Zonguldak resulted in substantial waste and ineffective use of expenditures prior to the arrival, in 1940, of American technical assistance teams. For example, the Americans soon discovered that much of the money spent by the Turks on the coal mines in the post war period had provided elaborate buildings for administration, employees' recreation parks, shops, garages and other accessories which might have been postponed until actual coal production was sufficient to meet at least the most urgent demands for this source of power.

Even though there exists, at Zonguldak, a shortage of efficient managers, trained engineers, on the other hand, are rather plentiful in the Zonguldak mining operations. Training of engineers and of some skilled foremen and technicians is carried out at the Zonguldak Institute of Mines. "Many of the top engineers at Zonguldak are graduates of this school. Since the mines were taken over by the State, the facilities of the Institute have been greatly expanded. Unfortunately, management training is not provided, though Zonguldak is in particular need of it."  

The problem of inadequate supplies of skilled mechanics and technicians was not too serious when the American advisers first arrived on the scene. At that time, many of the mining processes made extensive use of manual labor with very little mechanization of the mines. Soon the American advisers faced the problem of providing careful and extensive training of the personnel in order to enable them to operate and maintain the new expensive machinery. The problem of "recruiting" new technicians and mechanics was even more difficult. This latter problem, in all probability, will not be solved for many years to come. In addition, as mentioned earlier, the shortage of regular mine workers created the necessity of recruiting most mine labor from the surrounding countryside. This type of "temporary" mine labor is unskilled and the turnover is very high.  

The American technical advisers also found difficulty determining the actual efficiency of the over-all operation of the mines. Careful cost figures were not kept, accounting techniques were extremely primi-

tive, and price was set by Eti Bank without any apparent regard for cost of production. In fact, as indicated earlier, the price of coal was generally set considerably below actual cost of production in order to "subsidize" the consumer of coal.\(^{31}\) Profit and loss, therefore, are simply a matter of book entries. Consequently, they cannot reflect the degree of efficient operation and have little effect on the survival, the contraction, or the expansion of the operations; nor do they significantly affect managerial practices and decisions throughout the various operations directed by Eti Bank.\(^{32}\)

A more recent problem has developed in the program of increased coal production and its full impact cannot be appraised at this time. On August 26, 1952, a series of fires and explosions took place in one of

\(^{31}\) The Eti Bank's price, cost, and accounting methods are quite complicated. This bank controls seven main mining organizations or "Exploitation Establishments" called respectively, Eregli Coal (Zonguldak), Western Lignite, Divrigi Iron Mines, Turkish Copper, Eastern Chromite, Keciborlu Sulphur, and Coal Sales. "Eti Bank fixes the prices, makes the sales, and on its books, credits the establishment with the proceeds. Prices are not the result of competition in the market, but reflect whatever policy the parent bank desires to pursue, involving subsidies in some cases, and arbitrary transfers of gain or loss from one state agency to another." (Ibid., p. 95.)

\(^{32}\) As a result of the government's deliberate policy of keeping the selling price of Zonguldak coal well below the cost of production, the coal company has lost from TL 10 million to TL 20 million annually in recent years; these losses have usually been covered by transfers from other Eti Bank activities. The efficiency of Zonguldak operations has suffered as a consequence. The operation of the coal mines under such a handicap has created a grave problem for the American advisers at Zonguldak. (Barker, Op. Cit., p. 110.)

The problem of increasing coal production has been further complicated by the physical nature of the carbonifers or coal beds. The seams or veins of coal are cut by large "faults" or "dips" in both north-south and east-west directions. There are two major folds in these seams which have created a rather serious engineering problem in mining the coal. "These conditions make mining somewhat difficult and require a variety of types of mining depending on the thickness of the seam and the degree of incline, which varies from slight to almost vertical dips." (Dorr, Op. Cit., p. 5.)
the major "extensions" of a colliery of the Zonguldak region. Apparently, the fire originated in a pile of waste located in one of the new tunnels which was under construction. The coal quickly caught fire and increased to major proportions throughout the new tunnel. No apparent injury or loss of life to personnel was experienced but rather extensive damage was caused to this section of the mine by the fire and accompanying explosions. Investigations have been going on for months and the full extent of damage has not been revealed at this time.

The Role of Free Enterprise in the Turkish Coal Industry

Turkey's experience with mineral resources development, prior to the Republic in 1923, was marked by "foreign" exploitation which had relegated the country to a colonial economic status and a source of natural riches for other nations. The Turks' distrust of foreign interests had been growing for several decades primarily as a result of the discriminatory capitulations mentioned earlier in this study. After the organization of the Republic, the Turks were intent upon the development of their own resources. Consequently, they developed laws which reserved most of the mineral rights to the exclusive domain of the State. "The present mining laws reflect this attitude. All underground deposits are the property of the state and cannot be conveyed." 33

Even though the laws protect the deposits for the government, provision was made, nevertheless, for private "exploitation" of coal in Turkey. In the event that a private citizen desires to explore mineral resources, the government may issue an exploration permit for two-year

periods. If the prospector, then, happens to discover any deposit worth mining, the government may issue an exploitation permit, or concession, for a period up to sixty years. Rather strict and specified obligations for development are imposed on the concessionaire.

It is theoretically possible for private individuals, therefore, to explore and to develop coal mining throughout the country. In actual practice, however, it is extremely rare. In the first place, if the prospector discovers any deposit worth mining, the government is not obliged to give him the right to actually mine the coal. It may instead turn the project over to the state establishment and simply reimburse the discoverer for his expense. "No owner or trustee of private capital is likely to risk the time, effort and money necessary to embark on mining under such conditions."  

There is another obstacle to the development of coal mining by private interests in Turkey. "The concessionaire must pay taxes which may turn out to be large in comparison with the value of the deposit. These include a 'fixed tax' of a tenth of a Turkish lira per hectare annually and a 'proportional Tax' ranging from 1 to 20 per cent of the nominal value of the product, which is calculated by deducting the costs from the sales prices."  

The obstacle, however, is that the nominal value on which the proportional tax or royalty is levied is computed in advance of development. Estimates must be made of the possible quality and extent of mineral deposits, the costs of extracting and processing them, and the prices for which they can be sold. All of these items are highly indeterminate and advance computations are simply arbitrary estimates

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31 Ibid.  
35 Ibid.
made by the Minister of the Economy and the Council of Ministers. Such a tax might conceivably be open to "influence" by the concessionaire and "prejudice" exercised by the government official who makes the final decision on the tax.

Mineral industries are also subject to a variety of other taxes which tends to discourage private exploitation. For example, mining industries like coal "are subject to the numerous business taxes, including military tax, income tax, excess profits tax, emergency tax, transaction tax and building tax. If the Turks had designed a system to prevent private mineral development, whether foreign or domestic, they could scarcely have done better. This was, indeed, their policy."

Since private enterprise is virtually excluded in the field of coal mining exploration and development in Turkey, an organization known as the Mineral Research and Exploration Institute and referred to by the letters "MTA" was organized in 1935 under the Minister of the Economy. MTA's structure followed the Russian model and, in fact, was set up under the guidance of Soviet experts. This organization conducts general geological and mineralogical surveys, finds and tests specific deposits, and, insofar as Zonguldak coal is concerned, provides expert consultants for the state-operated mining company at Zonguldak. Coal mining in Turkey, therefore, is almost the exclusive domain of the government both in exploring new deposits and actually mining the coal after the deposits are discovered.³⁷

³⁶ Ibid., pp. 92-93.
³⁷ Ibid., p. 93.
General Description of the Zonguldak Coal Project

The Zonguldak coal project, which is currently being financed by foreign aid as well as local currency grants, is designed to improve coal mining facilities throughout the entire Zonguldak basin. These expenditures are roughly divided into two major categories. The first category aims at the development of electro-mechanization for the mines; the purchase of fans, pumps, steel structures and miscellaneous equipment; the increase in the number of shaft sinkings; and the installation of new underground transportation equipment. This first category of expenditures is designed for the development and the improvement of the mines themselves.

The second major category of expenditures is directed toward the more general yet complementary improvement of Zonguldak harbor, coal and ore handling equipment near the mines, railroad equipment and facilities in the vicinity, and new highways connecting the entire network of collieries with the Zonguldak harbor. The goal set in 1948 was to increase the annual production of marketable coal from 2,560,000 tons that year to a total of 3,700,000 tons by 1952. Of this increase, 750,000 tons was to be reserved for the export market.

The Zonguldak coal project has been divided, more specifically, into eight separate areas of development throughout the entire Zonguldak region with appropriate funds allocated for each of these eight segments.

The Zonguldak coal fields consist of a number of separate collieries in the northern section of Turkey near the city of Zonguldak. These collieries include the following which bear the name of the town in the vicinity: Camli, Kandilli, Alacaagzi, Kirecik, Iliksu, Insaniye, Kozlu, Zonguldak, Catalagzi, Gelik, Tarigagzi, and Amazra.
The first phase was directed toward the construction of the port of Zonguldak. Two breakwaters have been built in order to restrict wave action to ten per cent of the outside wave height so that ships may load and unload in all weather. These inner and outer breakwaters are so located to allow a turning circle 400 meters in diameter for maneuvering within the harbor. Various wharves will provide berths for two 10,000 ton ships (at the coaling wharf) and one 6,000 ton ship at the general cargo wharf. This latter wharf also has berths for a number of vessels ranging from 500 to 3,000 tons. This phase of the project also includes expenditures for dredging within the harbor to enlarge the protected water area. The estimated cost of this first area of improvement is $3,910,000 in foreign exchange and the equivalent of $3,590,000 in local currency.

The second major area for improvement in the Zonguldak coal project is the expenditure for equipment for loading and storing cargo at the Zonguldak harbor. This phase of operations is designed to "equip" the new harbor after the breakwater and loading wharves have been finished. It provides for the necessary buildings, storage bins, and modern loading and handling equipment. This latter expenditure will go for modern devices connected by a system of conveyors sufficient to load two ships simultaneously at 500 tons of coal per hour. Also provisions are being made to include adequate drainage and sewage disposal, power and water distribution, communications, and fire-prevention installations at the Zonguldak harbor. The estimated cost of this second area of improvement in the coal project is $6,190,000 in foreign exchange and the equivalent of $810,000 in local currency.
The third phase of development at Zonguldak is the construction of an aerial tramway connection between Kandilli and Armutcuk Junction to permit shipment of Kandilli coal through the port of Eregli. This tramway will extend over the extremely mountainous country between these two places for a distance of two miles and is expected to permit the transport of a 2,000 ton capacity of coal per day. The major purpose of this tramway is to relieve the present production bottleneck of high-volatile coal from the western section of the coal fields. Since output is now limited by wholly inadequate transportation facilities, this improvement is expected to increase production of coal by at least 800 tons per day. This tram is estimated to cost about $355,000 in foreign exchange and the equivalent of $81,000 in local currency.

The fourth development stage in the Zonguldak coal project is the establishment of standard-gauge railroad connections between Kozlu and the port of Zonguldak and the necessary railroad equipment required for its operation. This new development is expected to replace the existing narrow-gauge railway which now connects the Kozlu and the Asma colliery areas and to connect the new railway with the standard-gauge terminal at the town of Zonguldak which in turn will be connected with the railroad leading to Zonguldak harbor. In addition, this phase of the project intends to construct 2.4 kilometers of standard-gauge railroad in the vicinity of the Catalagzi washery. The over-all railroad improvement program includes the necessary bridges and tunnels in the vicinity mentioned above. This program is necessary in order to take care of the increase of coal output which is expected to result from the Zonguldak coal project and especially aims at securing more efficient, low-cost
haulage. Dollar grants have been requested from the American aid program for the purchase of eight locomotives, 100 seventy-ton coal cars, 25 flat cars and certain other railroad equipment not obtainable in Turkey. The total cost of this part of the program is estimated to be $2,610,000 with no break-down between foreign and domestic financing.

A fifth major area for improvement in the Zonguldak coal project is the construction of the Zonguldak and Catalagzi washeries. These two washeries are centrally located and will have a combined capacity of 1,250 tons of unwashed coal per hour. These washeries are needed not only to handle the expanded production of coal which is expected to result from the over-all project, but also to replace the eight existing washeries which are obsolete, worn out, and improperly located to treat the coal which will be produced by the new facilities. The estimated cost of these washeries will be $8,144,000 in foreign exchange, plus the equivalent of $2,595,000 in local currency.

The sixth phase of development in the Zonguldak coal project is the underground electro-mechanization in five principal mines of the coal fields. This marks the inauguration of modern mining methods in Turkish coal mines and is designed to improve substantially the efficiency of coal mining in the country. This phase of the project is especially significant since it will be able to take advantage of the existence, in the Zonguldak area, of an ample supply of low-cost electrical power supplied by unmarketable "coal middlings" as fuel. This development phase of the over-all project contemplates the installation of equipment necessary to replace present hand methods of mining and to mechanize the breaking and underground movement of both coal and waste rock. The
estimated cost of this part of the scheme is $7,244,000 in foreign exchange with no estimate given for the local currency requirements. It is expected, however, that the installation of this equipment, by the Turks, will involve a substantial outlay of money.

A seventh major area for improvement consists of the driving of rock galleries at the minus-300 foot level at the Kozlu colliery. This division of the project, which was planned as early as 1944, is part of the plan to bring in new sources of unexploited coal from the lower-level veins. This improvement involves the driving of a total of 70,000 feet of main haulage ways and the development of galleries below the depth to which this district is presently exploited. The cost is expected to total approximately $1,600,000 in foreign currency in addition to the equivalent of $2,314,000 in local currency.

The final area designed for development in the Zonguldak coal project is the improvement and construction of surface installations at the Kozlu colliery. This section of the project covers basic equipment which is needed for the consolidation of mining activity in the Number 1 and the Number 2 shafts at Kozlu. New hoisting equipment, an additional compressor and pumping installations are contemplated. Also the installation of three primary ventilation fans having a total capacity of 360 cubic meters per second will be made at Kozlu. Finally, this phase of the over-all project calls for the consolidation of widely dispersed shops, storehouses, lamphouses and other maintenance buildings in the area adjacent to the new working shafts and includes, in addition, provision for a mine rescue station and adequate change rooms. The cost of this last part of the Zonguldak coal project is considerably more than
any of the other seven phases. It is estimated that $12,000,000 in foreign exchange will be needed plus the equivalent of $6,000,000 in local currency in order to complete this final area in the development of coal in Turkey. 39

The period being considered for this analysis is from the end of 1948, which is the time of the arrival of the American advisers for the coal project, until the end of 1951—a period of approximately three years. The method of analysis used here is designed to determine, approximately, the economic efficiency of the total expenditures for the Zonguldak coal project as expressed by the ratio of total returns or gains for Turkey to total expenditures or costs. This ratio, as indicated in the preceding chapter, is roughly equivalent to the measurement used in business which is known as "return on investment." Since total investment in the coal mines is indeterminate—the mines have been operating since 1848 with no record of investments made—this analysis resorts to the use of expenditures or improvement costs in lieu of investment figures. The final ratio, therefore, will be a return on expenditures instead of a return on investment.

1. Total Expenditures on the Zonguldak Coal Project

The determination of total expenditures for the coal project through 1951 cannot result in a precise or exact figure. Estimates are available which show the amount that is expected to be spent by that time but there is no assurance that actual expenditures will coincide precisely with the estimates. In a project as complex as that of coal development, many expenditures depend upon "progress" of the earlier development stages. In the event that certain earlier stages of improvement are delayed, for a variety of reasons, the result usually is the postponement of later expenditures until the project is ready for the next succeeding stage of construction. In view of this fact, therefore, a certain amount
of the following expenditures may not have actually taken place until some time in 1952. Furthermore, it should be understood that some of those funds actually expended in 1951, or even in 1950 for that matter, may not necessarily show new equipment actually on the job by the end of 1951 because of delays in shipment, late purchasing or general delays in the over-all coal improvement program. In spite of these limitations, however, it appears that the expenditure data in Table 17 more accurately reflects "total expenditures", for purposes of this analysis, than any other available data.

Table 17 shows almost equal financial participation in the project by the United States and Turkey. The extent of foreign borrowing, however, is rather surprising and tends to highlight the importance of future coal exporting by Turkey in order to meet these loan obligations. Improvement in coal production, therefore, would appear even more vital to Turkey's future in light of this increased foreign debt resulting from the Zonguldak coal project.

The total expenditure from the three sources indicated in Table 17 is $57,270,470. This figure represents the base upon which this section of quantitative economic analysis rests. The analysis which follows will attempt to determine a net annual return on this expenditure of $57,270,470 for the first three years of the coal project. If such a quantitative return can be found which is directly related to the total expenditure shown in Table 17, then perhaps a useful "ratio" can be developed which will measure in a rather rough, general way the quantitative results of the money expended on the Zonguldak coal project.
### Table 17

Total Expenditures for the Zonguldak Coal Project by Source

For the Period 1949 Through 1951 in Turkey

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount in Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Aid (ECA)</td>
<td>$16,290,538</td>
</tr>
<tr>
<td>Foreign Loans*</td>
<td>$24,059,932</td>
</tr>
<tr>
<td>Local Currency (Turkey)</td>
<td>$16,920,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$57,270,470</strong></td>
</tr>
</tbody>
</table>

*Foreign loans by Turkey consist of purchases from various European countries for which no foreign exchange is available by Turkey for payment. These loans are negotiated directly with the country and also through the organization designed for that purpose, the European Payments Union.*

Source: Bark, Cemal Sait, Estimates of Project Expenditures, (Eti Bank Project Application, October 13, 1950). Mr. Bark is the Acting Secretary General of Turkey.
2. Total Returns or Gains to Turkey from Coal Project

The logical figure, which one might expect as adequately representing the total gains to the Turkish economy from coal improvement, would be the increased "profits" resulting from increased production at lower costs. However, as pointed out earlier in this study, the peculiar method of price determination in the coal industry, which frequently establishes a price below actual cost of production, would tend to show a loss rather than a gain or return to Turkey. It is necessary, therefore, to devise some other technique which will involve no reference to price or to profits at Zonguldak.

The Turkish Ministry of the Economy has developed a series of cost estimates per ton of coal for the period under consideration in this study. These average total cost estimates have been computed for each year from 1948 to 1952 and are shown in Table 18. It is important to point out that these estimates were made in 1948 and are, therefore, subject to change as more recent data are made available from this agency. However, the report from which Table 18 was obtained points out that the estimates of the reduction in cost were reached only after very careful and prudent study. Moreover, the report emphasizes the point that the estimates are very conservative and probably do not reflect completely all the benefits resulting from the new developments. For example, it was suggested that the electro-mechanization phase of the project would likely produce efficiencies far greater than the report's rather conservative estimates back in 1948. Furthermore, the report expressed the conviction that such an important transformation in the underground working conditions as that provided through electro-mechanization could only
Table 18

Estimated Average Total Cost and Estimated Savings per Ton of Coal from Zonguldak Coal Project, 1948 through 1952

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated Average Cost (Metric Ton)</th>
<th>Base Cost for Measuring Average Savings (Metric Ton)</th>
<th>Average Total Savings (Metric Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>$10.44</td>
<td>$10.44</td>
<td>—</td>
</tr>
<tr>
<td>1949</td>
<td>10.00</td>
<td>10.44</td>
<td>$ .44</td>
</tr>
<tr>
<td>1950</td>
<td>9.50</td>
<td>10.44</td>
<td>.94</td>
</tr>
<tr>
<td>1951</td>
<td>9.00</td>
<td>10.44</td>
<td>1.44</td>
</tr>
<tr>
<td>1952</td>
<td>8.51</td>
<td>10.44</td>
<td>1.93</td>
</tr>
</tbody>
</table>

exercise its real or full effect over a longer period of time. It was for this reason, largely, that conservatism became the cardinal rule followed by those participants in the cost estimates shown in Table 18.40

The matter of "depreciation" was taken into consideration in the estimates appearing in Table 18. For a more detailed breakdown of the figures shown in that Table and in order to indicate the actual amounts used to determine depreciation, Table 19 is submitted. It is noted in this Table, for example, that depreciation was estimated to be 46 cents for each ton mined in 1948. As a percentage of total cost, this would amount to 4½ per cent. On the other hand, the depreciation in 1952, as a result of greater quantities of new capital, was estimated at 92 cents per ton of coal. This depreciation estimate expressed as a percentage of the total cost would be almost 11 per cent.

In view of the fact that the foregoing expenditure data, in the preceding section, was calculated only through 1951, it will be necessary, for logical reasons, to use the cost reduction of $1.44 per ton which is shown in Table 18 to be the estimate for 1951. The next step in determining the total return of the coal project, therefore, is to obtain the actual amount of production of coal for 1951. Total marketable coal

40 "We have insisted on being very conservative in our estimates of the possibilities of reducing the cost price, and in spite of the opinion of specialists..., we have not admitted an increase of production per man-shift for 1952 up to two tons. Our conservative estimate, though perhaps exaggerated, is due to the discipline we have imposed upon ourselves, not to express results which might be too encouraging without being absolutely certain of obtaining them." (Turkish Ministry of the Economy, Report on the Development of the Coal Field of Zonguldak, presented to the O.E.E.C. at Paris and to ECA at Washington, September 15, 1948), pp. 180-181.
Table 19

Estimated Breakdown of Total Average Cost of Coal from the Zonguldak Coal Project for Years 1948 and 1952

<table>
<thead>
<tr>
<th>Items in Total Average Cost</th>
<th>1948 Estimates</th>
<th>1948 Totals</th>
<th>1952 Estimates</th>
<th>1952 Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Underground cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Labor</td>
<td>$1.32</td>
<td>$1.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Pit Props</td>
<td>1.18</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Material</td>
<td>.45</td>
<td>.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Repair costs</td>
<td>.12</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Power</td>
<td>.07</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Miscellaneous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>$3.14</td>
<td></td>
<td>$3.10</td>
</tr>
<tr>
<td>II. Surface Cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Labor</td>
<td>.20</td>
<td>.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Material</td>
<td>.06</td>
<td>.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Repair Costs</td>
<td>.04</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Power</td>
<td>.16</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Miscellaneous</td>
<td>.47</td>
<td>.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>.93</td>
<td></td>
<td>.44</td>
</tr>
<tr>
<td>III. Losses and Costs of Washing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Washing Losses</td>
<td>3.20</td>
<td>1.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Washing Costs</td>
<td>.26</td>
<td>.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>3.46</td>
<td></td>
<td>1.71</td>
</tr>
<tr>
<td>IV. Transportation &amp; Loading Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Storing &amp; Reclaiming</td>
<td>.16</td>
<td>.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Transportation &amp; Loading</td>
<td>.64</td>
<td>.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>.80</td>
<td></td>
<td>.26</td>
</tr>
<tr>
<td>V. Total Social Expenditures</td>
<td></td>
<td>1.03</td>
<td></td>
<td>.75</td>
</tr>
<tr>
<td>VI. General Costs and Financial Charges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. General Costs</td>
<td>.34</td>
<td>.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Depreciations</td>
<td>.46</td>
<td>.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Interest</td>
<td>.28</td>
<td>1.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>1.08</td>
<td></td>
<td>2.25</td>
</tr>
</tbody>
</table>

Total Cost of Coal per Metric Ton $10.44 $8.51

production for that year amounted to 2,987,846 tons.\textsuperscript{41} Since each of those tons produced in 1951 would logically benefit from the lower cost estimated above, the total gain to Turkey as a result of lower coal costs would be $4,302,498.\textsuperscript{42}

Probably an additional gain should be added, however, to the total mentioned in the preceding paragraph. As indicated earlier in this chapter, the price of coal is currently about $20.00 per ton in the world market. If the cost of coal in 1951 is estimated to be $9.00 (Table 18) and if we assume freight cost to average $4.00 per ton, the net profit to Turkey would still amount to about $7.00 per ton. With Turkey's coal exports amounting to 100,000 tons in 1951,\textsuperscript{43} an additional gain of $700,000 would accrue to Turkey as a result of the Zonguldak coal project. The total gain or return from this project, therefore, would be $4,302,498 plus $700,000 or a total of $5,002,498.

This figure of $5,002,498 would be a net annual return to the economy since depreciation has been calculated in the determination of this amount (See Table 19). This estimated net return figure, which is based on the year 1951, expressed as a ratio of total expenditures from all sources ($57,270,170) is approximately 9 per cent. This ratio of 9 per cent may be referred to as the Net Annual Return on Expenditures.

\textsuperscript{41} U.S. Department of Commerce, Business Information Service—World Trade Series, No. 211, Turkey, Economic Review, 1951.
\textsuperscript{42} Determined by multiplying total coal production of 2,987,846 times the average total savings estimated to be $1,146 for that same year.
\textsuperscript{43} Information supplied by the MSA Mission in Ankara to the Mutual Security Agency in Washington on the progress of Turkey as of June, 1952.
3. Significance of 9 Per Cent Net Annual Return on Expenditures

Perhaps it might appear, at first glance, that a 9 per cent return on the project is not very significant. However, when one realizes that this return was computed before most of the improvements were completed and prior to the installation of the largest part of the total capital equipment designed for the project, the 9 per cent figure tends to take on greater significance. In other words, in spite of the tremendous outlay for harbor improvement, electro-mechanization, transportation facilities, new washery equipment, and modernization of all buildings and surface installations, and even though most of these improvements have not been completed sufficiently to bear any appreciable influence on the savings noted above; nevertheless, the total outlay for the first three years for everything will be returned to the economy through savings in cost of coal alone in approximately eleven years. When the above installations are completed and in operation—by about 1956 according to latest estimates—the savings from lower unit costs and greatly increased coal production should far overshadow the estimates used in this analysis for 1951. And since the expenditures' figure is not expected to increase significantly because of the fact that most of the improvements have been paid for, it is conceivable that the return ratio will rise substantially each year as the full effects of the completed installations are felt at the Zonguldak coal mines. It appears especially significant, therefore, that the savings in coal costs for a one-year period as early as 1951 could show a recovery of 2 per cent of the total cost of the project long before most of the improvements have been effected.
Limitations of the Foregoing Economic Analysis

As suggested in the preceding section, the most serious limitation of an economic appraisal of the coal project at this time is the necessity of computing the returns long before the project is completed. One could hardly expect any appreciable results over a period which emphasized construction, installation and improvement of facilities rather than concern for actual production of coal per se. In other words, the improvement in coal production reflected in the above return ratio was probably merely incidental to the Zonguldak coal project and came as a result of no particular concentrated or concerted effort, on the part of the Americans and the Turks to significantly increase coal production. In spite of this shortcoming, however, the fact that some rather substantial improvements in production of coal and in savings in costs did actually accompany, simultaneously, these new installations should give a clue as to future possibilities of the coal project in Turkey.

A major limitation resulting from the figures used in the computation of the return ratio centers around the amount of total expenditures. It appears somewhat unjustified, perhaps, to use a figure which includes such large items as harbor improvement, roads, railroads and other somewhat "indirect" expenditures as the base for measuring returns. It might be more realistic if the expenditures base were reduced simply to those items of expenditure which will directly result in getting more coal from the mines. If such a reduced figure had been used, the return ratio would certainly have been much higher indeed. In other words, approximately half of the total expenditures figure of $57,270,470 would be attributed to these more direct items. The return ratio, under these circumstances, would approximate 17 per cent.
Perhaps a third limitation should be cited in respect to the data used in determining the reduced cost of production. These estimates were developed in 1948 and probably do not reflect actual costs in 1951. In the attempt to be extra conservative, perhaps the actual costs were somewhat lower than were estimated. On the other hand, since the calculations may have assumed completion of some phases of the project before they actually materialized, the cost reduction estimates might even be overstated.

In determining the return ratio in the above analysis, the amount of estimated profit accruing to Turkey as a result of the sale of 100,000 tons of coal abroad should be mentioned as a limitation. In the first place, there is no information available giving actual selling prices of the coal exported. The estimate of $20.00 per ton may be too high or too low as an "average" price. Furthermore, the estimate of $4.00 per ton for transportation cost may not be a sound estimate for the average freight cost of all the coal exported in 1951. Finally, the Turks might have exported this amount of coal in spite of the Zonguldak coal project. In that event, they would still have profited almost to the extent shown in the preceding analysis. This would result from the fact that their estimated average total cost of coal prior to the project was $10.44 and if they were able to sell the coal abroad for $20.00, the total profit from the venture would have been substantial. The justification for adding the profit resulting from the coal exports in 1951, however, was based on the assumption that such coal exports were possible because of the increased coal turned out by the coal project.

The discussion of limitations in the preceding chapter pointed out the inadequacy and inaccuracy of statistical data in Turkey. Undoubtedly,
this fact serves as one of the serious limitations to the foregoing economic analysis. As greater statistical aptitude is developed on the part of the Turks, perhaps an analysis similar to that just presented will more accurately reflect the true impact of the Zonguldak coal mining project on the cost of coal as well as the quantity of coal produced at Zonguldak.

Probably mention should be made, in this section on limitations, of the use of business methods for determining the return to the coal project. Since the business measure of "return on investment" could not be used, because of unavailable investment data, the figure for "expenditures" was substituted for "investment" in the above ratio. As a result of this necessary switch, therefore, the resulting ratio does not closely resemble the "return ratio" found in business as a measure of efficiency. Nevertheless, for lack of a better method, the above procedure would seem to offer some usefulness in measuring the effectiveness of the expenditures in the coal mining project at Zonguldak.

In spite of the above limitations, the preceding economic analysis at least indicates some optimism in the coal industry of Turkey. It is encouraging to note, for example, that even if no further increase in coal production than that experienced in 1951 should take place in the future and if the cost savings found that year are simply maintained at the 1951 level, the economy would still recover the expenditures of the coal project in a very few years. Moreover, the additional benefits derived from the improved harbor, better roads in the area, and the new railroad facilities would accrue to Turkey even if greater coal production at lower costs did not result beyond that total realized in 1951. At the same time, the better quality of coal resulting from new washery
and handling equipment would likely reduce the "cost per unit of heat" even without any further reduction in the cost of producing the coal.

It should be made very clear, however, that such a naive assumption as that indicated in the preceding paragraph has little basis in fact. Surely if rather significant gains can be obtained without these improvements outlined in this chapter, the likelihood is far greater that outstanding returns will result when these improvements are properly integrated into a modern, efficient industry. The quantitative results indicated in the preceding analysis, therefore, seem to show very definite potentialities at Zonguldak in the next decade. In all probability, the present problem of insufficient coal for domestic purposes and an inadequate export trade in coal should become less serious with each passing year.

Summary

The importance of coal to the expanding industrial economy of Turkey has never been more "strategic" than at the present time. Increasing demand for coal at a much faster rate than the increase in production of this resource, has created a critical shortage throughout industry, agriculture, and in the households of Turkey. Temporary relief has been obtained by the use of substitute fuels such as firewood, charcoal, animal dung, and lignite. Resort to such alternative resources, however, is not without serious complications in other parts of the Turkish economy. Furthermore, the critical coal shortage has created a drastic reduction in the exportation of coal which, in turn, has deprived Turkey of much needed foreign exchange to finance her ever-broadening foreign debt.
An extremely ambitious program of coal development has been undertaken in Turkey through the Zonguldak coal project. This project includes various related developments such as harbor improvement, railroad facilities, new roads and modern surface installations. Its object is not only to increase coal production and reduce the cost of coal but also to reduce the cost of and increase the facilities for, distributing the expected increase in the quantity of coal.

Even though the project is not expected to be completed until some time in 1956, rather significant returns have already been realized by the Turkish economy as early as 1951. During the first three years of the project, coal production increased about 114 per cent and reduction in costs was nearly 14 per cent. In translating these returns to a ratio, it was discovered that these savings, which resulted from more coal at lower cost, would be sufficient in approximately a decade to equal the total cost of the entire project from 1948 through 1951. And these calculations, incidentally, were made before most of the improvements were installed in the project at Zonguldak. It seems reasonable to conclude, therefore, that rather sizeable returns may be expected from the Zonguldak coal project in the next few years in respect to increased quantities of coal at lower costs and higher quality. Such returns are expected to mount as each separate phase of the development project is completed and its full weight is brought to bear on the problem of ineffective or inefficient coal production. The critical shortage of coal in Turkey, therefore, appears to be a rather temporary problem which should be somewhat alleviated in the next few years. Attention should now be turned to the major substitute for coal in the Turkish economy at the present time—Lignite.
CHAPTER VIII

DEVELOPMENT OF WESTERN LIGNITE PRODUCTION IN TURKEY

Lignite, a form of low-grade coal, is the chief substitute for bituminous coal in Turkey. In the last few years, attention has turned more and more to this source of energy as the partial solution to the critical coal shortage throughout the country. Lignite is a variety of "brown" coal intermediate between peat and sub-bituminous coal and has a relatively low calorific content. Frequently, the texture of the original wood from which this coal was derived is quite distinct. After careful study of this source of energy by coal experts in 1948, the rather startling discovery was made that this type of solid fuel located in the extreme western portion of Turkey is not really lignite at all but actually a higher grade fuel known as sub-bituminous coal. Nevertheless, the word "lignite" will be used throughout this chapter when reference is made to this variety of coal.

Conservative estimates show that lignite reserves in western Turkey amount to at least 165 million tons. Since 1948, numerous other deposits have been found in the western part of Turkey which would seem to indicate tremendous quantities of this fuel available for exploitation by the Turks. This rather recent discovery of significant quantities of lignite in western Turkey has created a brighter outlook in respect to its potentialities as a "major" source of energy throughout the economy. This previously shunned type of fuel is currently selling in Ankara for TL 30 per ton as compared with TL 35 per ton for Zonguldak coal. The
real significance of this narrow price differential lies in the fact that lignite has considerably lower calorific value per ton than the bituminous coal produced at Zonguldak. Consequently, the narrow price differential is a result of peculiar government pricing, which has been referred to earlier, rather than a true reflection of demand as exercised through the market mechanism. It is simply an established fact that because of the critical shortage of all types of fuel as a source of energy through Turkey, lignite can bring a much higher price than would be true under normal circumstances of sufficient supplies of fuel.

Actual lignite production in Turkey is confined almost entirely to the west central section and most of the total production comes from three entirely separate mines located at the towns of Soma, Tuncbilek, and Degirmisaz. These mines are governmentally owned and operated and are the ones which have been designated for improvement through the Western Lignite Project sponsored by joint American-Turkish funds.

**Status of Western Lignite Production Prior to Foreign Aid (1948)**

Even though most of the total lignite production comes from these government mines, there are several private mines producing in the western lignite area, however, and their production might total as much as 15 percent of the total lignite mined in Turkey. Production of this fuel, from both government and private sources, has shown a phenomenal increase during the two decades prior to the American aid program. Table 20 indicates the increasing significance of lignite as reflected in the total sales of this form of energy from 1924 through 1947. These data include lignite from both government and private mines.

Table 20 indicates that the spectacular increase in sales of lignite
Table 20

Lignite Sales in Turkey from 1925 through 1947

With Indices for Each Corresponding Year

(1925 = 100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales (Metric Tons)</th>
<th>Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1925</td>
<td>5,000</td>
<td>100</td>
</tr>
<tr>
<td>1926</td>
<td>7,000</td>
<td>110</td>
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<td>9,000</td>
<td>180</td>
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<td>1929</td>
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<tr>
<td>1945</td>
<td>721,000</td>
<td>14,800</td>
</tr>
<tr>
<td>1946</td>
<td>604,000</td>
<td>12,080</td>
</tr>
<tr>
<td>1947</td>
<td>819,000</td>
<td>16,380</td>
</tr>
</tbody>
</table>

coincides with the intense effort, on the part of the Turks, to industrialize the whole economy in the shortest period of time. Their policy of etatism, which began in the 1930's is reflected, therefore, in the substantial increase in demand for fuel (Table 20) to feed this new industrial machine. Note that from 1931 to through 1934, lignite consumption almost doubled each year. Furthermore, as the industrialization program began to increase its pace during the Second World War, the increase in consumption showed similar dramatic increases. From 1941 to 1943, for example, lignite again doubled its sales throughout the Turkish economy. In all probability, much of this gain may be attributed to the shortage of coal and to the absolute necessity of resorting to a substitute, regardless of how inferior, in order to keep the mechanization of the economy increasing at a rate fast enough to realize the goals which the Turks had set out to accomplish during successive five-year plans.

In order to maintain the high levels of production to meet the growing demands for lignite, the mine operators occasionally resorted to longer working hours in the mines and were contemplating, in 1948, a switch to a schedule of two working shifts totalling 16 hours or more per day. Furthermore, little attention had been given, prior to the development of the western lignite project in 1948, to the problem of "quality". Since the unusual demand situation made possible the ready marketability of any lignite that could be turned out, regardless of its quality, emphasis was placed almost exclusively on getting the lignite to market in any form possible. The inadequacy and inefficiency of washeries, therefore, made little difference in the actual production of lignite in the western mines. As a matter of fact, later analysis in this chapter will show that when greater efficiency of washing facili-
ties was developed through the improvement project undertaken in 1948, actual production gains suffered from the removal of greater quantities of impurities. It should be kept in mind, therefore, that even though rather surprising production results had been experienced in the lignite industry even prior to American aid, apparently a significant portion of these quantitative results had been accomplished through the neglect of quality considerations. The Eti Bank report on the proposed development of the western lignite mines recognized the importance of qualitative improvement when it stated that "Besides numerical increase in production, it should be noted that the coal which will be produced in 1952 will be superior in quality due to better washing."\(^1\)

**Importance of Lignite Development**

Probably the most important reason for the improvement of lignite production in Turkey at the present time is to release some of the burden placed on the Zonguldak coal mines as a result of the disproportionate increase in the demand for solid fuels relative to the necessary facilities which supply these fuels. As indicated in the preceding chapter, the completed facilities in the vicinity of Zonguldak are not expected until some time in 1956. In the meantime, intense pressure is being brought to bear on the Zonguldak mines, from various sectors of the Turkish economy, to supply far more coal than the present capacities at Zonguldak can handle. Perhaps the partial solution to this dilemma lies in the substitute fuel—lignite.

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If greatly increased quantities of lignite can be produced at considerably lower cost, it may conceivably open many new avenues of use for this previously overlooked source of fuel. Until rather recently, the true value of bituminous coal at Zonguldak was not fully realized. This valuable mineral deposit had been exploited in a most imprudent manner; it was frequently utilized for heat production when it could serve more efficiently as a source of power generation. With greater quantities of western lignite, the high quality bituminous coal can then be allocated for more effective uses. In spite of the growing demand for lignite as illustrated in Table 20, the western lignite deposits have for years carried the stigma of being too inferior for most purposes in which coal is needed. Consequently, this type of energy source has frequently never been considered in many operations where it could probably serve a very useful and efficient place in the Turkish economy. As soon as the improved quality of this solid fuel is assured, which should come from the over-all lignite development program, recommendations have been made by several American technical advisers to initiate a thorough-going advertising campaign to sell "western lignite".

After the discovery in 1948 by certain coal experts that western lignite was, in reality, a somewhat higher grade of fuel than had been realized previously, greater interest began to be shown in this energy source by certain industries as well as some household consumers. It was discovered by several industrial concerns, for example, that a rather minor adjustment in certain types of coal furnaces would provide adaptability to this sub-bituminous coal. Moreover, whenever new furnaces become necessary as replacements for worn-out equipment, prime consideration is generally given, in selecting the type of new furnace, to the
"convertibility" of this new equipment for consuming lignite in the event such a substitute fuel becomes necessary.

Evidence of the development of ingenuity in the use of lignite on the part of the Turks has been found in various residences throughout Turkey. Household devices of every description have been improvised to burn this low grade coal in the home. In the city of Ankara, it is interesting to note that "whenever a shipment of lignite arrives, it is sold immediately, despite the lack of stoves in Ankara especially designed for lignite consumption." If more and more use can be made of this type of fuel in the homes of Turkey, a considerable quantity of Zonguldak coal may then be diverted to industrial purposes and to the export trade.

Increased consumption of lignite should also help to relieve the problem of misuse of other forms of energy sources in Turkey. As indicated in the foregoing chapter, firewood consumption has assumed rather substantial proportions in the past few years which has, in turn, developed rather serious repercussions in the lumber and building industries. In addition, various officials have expressed alarm concerning the unauthorized cutting of trees throughout Turkey. The fast depletion of these natural resources has aroused the ire of numerous conservation officials throughout the country. Lignite development seems to offer some help in overcoming the disastrous consequences which are expected if present trends continue.

2 These rather crude devices are said to consist of specially constructed receptacles with rather unusual ventilation arrangements as well as a different type of grate from that used in most heating stoves.

Agriculture is likely to benefit in several ways as a result of increased quantities of Lignite throughout Turkey. In the first place, greater use of lignite as an energy source should allow greater use of animal dung for much-needed fertilizer to replenish the various elements which have been withdrawn from the soil through repeated growing seasons and insufficient crop rotation. Furthermore, greater availability of lignite should make it possible to improve certain phases of mechanization on various farms. As indicated earlier, the power source which provides the irrigation of many farms and orchards is frequently the ox or the donkey. The substitution of rather simple machines which operate on solid fuels could surely add to the efficiency and perhaps reduce the cost of the entire operation.\textsuperscript{4} Finally, the gradual development of lignite as the energy source operating thermal-type generators should result eventually in greater quantities of electric power for both agriculture and industry. If new thermal units could be devised to use lignite, the resulting increase in electric power generation might make it possible for many farms to utilize the power transmission lines which are frequently accessible to the farms but unavailable as a source of energy because of low voltage.

This possible increased use of lignite for the generation of elec-

\textsuperscript{4} In many parts of western Europe, the author observed trucks, tractors, and other farm machinery operating from either coal or wood as the energy source. The vehicles or machines had been equipped with a conversion unit which usually consisted of a tall cylinder containing the burning solid fuel. When power began to dissipate, the operator would add more of such fuel or sometimes simply increase the air mixture in order to increase the heat and stimulate the power generation. Undoubtedly such devices could be improvised in Turkey in order to improve the efficiency of farming.
tricity should be especially significant for industry. The critical shortage of coal, already explained, might be somewhat alleviated if full consideration is given to this substitute fuel. Since other types of machinery have been adapted to handle this lignite, it is reasonable to conclude that electric power generators of the thermal type can also be improvised to handle this lower grade fuel. If such a development can be accomplished without too much expense and delay, the critical power shortage for industry in Turkey might conceivably be reduced somewhat earlier than present expectations.

The cost of lignite, in relation to Zonguldak coal, should be mentioned in connection with this discussion of the importance of lignite development. As indicated in a later section of this chapter, the estimated cost of a ton of lignite in 1952 was $5.72. This amount is considerably below that estimated for Zonguldak coal in the foregoing chapter. Even though the calorific value of lignite is about half that of coal, the estimated lower cost of this inferior fuel would tend to offset a large portion of this lower heat value so that the cost per unit of heat would probably not be significantly different between the two types of fuel. This fact should tend to strengthen the importance of increased lignite production in Turkey.

The increased development of the highway system in Turkey should not be overlooked when considering the growing importance of lignite for the country. Formerly, the only important means of transportation of solid fuels in Turkey was by rail and by sea. The western lignite mines

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5 The estimated cost of Zonguldak coal in 1951 was $9 per ton. The estimate for 1952 was $8.51.
were accessible to the railroads but were too far inland to take advantage of the cheaper water transportation afforded the Zonguldak coal. With improved roads all across Turkey, however, possibly new importance should now be placed on lignite from the mines of western Turkey. As transportation costs continue to fail in this relatively new transport medium, the importance of lignite is likely to experience a corresponding rise.

The importance of lignite in international trade should not be overlooked. Even though it is true that lignite probably has little, if any, possibilities as an export item for Turkey; nevertheless, the release of increasing amounts of Zonguldak coal from present industrial, agricultural and household demands would surely provide greater export possibilities, the latter. In effect, therefore, lignite does exercise a very important influence on Turkey's future international trade potentialities. Presently, any export of Zonguldak coal is at the expense of industrial uses of this relatively scarce fuel. Perhaps, with greater substitution of lignite in industry, coal exports can take place without such a handicap on Turkey's industrial advancement.

Major Problems Faced by American Advisers

The problems of increasing production at the western lignite mines in Turkey are somewhat similar to those faced by the technical assistance people at Zonguldak. However, there are a few problems, peculiar to the western lignite project, which did not confront the various advisers

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6 See Chapter VII. The section containing the major problems faced by the advisers at Zonguldak bears the same heading as this section.
at Zonguldak. The fact that the Zonguldak project involved an expenditure, from all sources, of almost ten times that of the western lignite project should help to highlight one of the major differences faced by the two groups of advisers.

Even though the transportation problem at Zonguldak was quite serious when the American advisers arrived in 1948, the difficulty encountered at the western lignite project as a result of inadequate transportation was probably much more serious. At least Zonguldak coal could utilize the undeveloped port at the town of Zonguldak; western lignite, on the other hand, had to rely almost exclusively on the railroad to move the mined product. The previous chapter indicated the high cost of rail transportation as compared to water. Lignite, therefore, even though relatively cheap to produce, had its cost advantage wiped out through the excessive cost of transporting the coal to market. Roads in the vicinity of the mines in 1948 amounted to simple dirt trails with no hard surfaces of any kind. In fact, there were actually few "stabilized" soil roads in the vicinity of the western lignite mines at that time. Even if all-weather roads had existed, they would not have been of any real significance to the mines because of the critical shortage of trucks to haul the lignite. The development of the roads project, therefore, contributed greatly to the solution of the transportation problem faced by the technical assistance advisers at the western lignite project. With the increase in quantity of trucks to move the lignite, the cost of transportation is expected to be significantly reduced.

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7 See Chapter VI.
In spite of the fact that rail transportation is considerably higher in cost than water transportation, most of the lignite which reached such cities as Ankara, Izmir and Istanbul, in 1948, used the railroad. Greatly improved roads and increased quantities of transportation vehicles, resulting from the roads project, have created much greater accessibility of western lignite to the most remote sections of the country. It is possible today, for example, to ship lignite by rail or by truck to the Aegean, Marmara, Mediterranean or the Black Sea and then to use inexpensive water transportation to any port of Turkey. Improved roads can then transport the lignite inland to the cities, towns and villages all of which are in great need of solid fuels.

Another major problem faced by the technical assistance team at the western lignite project was the absolute shortage of mining facilities. Western lignite mining, at the time of the Marshall plan in 1948, was a rather primitive operation when compared to mining at Zonguldak. It wasn't quite so much a question of worn-out and obsolete equipment, as was true of Zonguldak, but rather the more serious problem of inadequacy, or in some cases nonexistence of necessary facilities. The mine at Degirmisaz, for instance, has been suffering for a number of years from a severe power shortage. Small portable diesel generators were installed in 1949 to overcome this handicap and to serve until such time as improved facilities could be installed.

The inadequacy of washery equipment at the western lignite project was much more serious than at Zonguldak because of the much lower quality of lignite. The ash content, as well as other foreign matter, has characteristically been much higher than that found in Zonguldak coal. Consequently, this dirtier form of fuel remained much lower in quality
than would have been necessary if adequate washeries had been available. Furthermore, since transportation costs were so high for this lignite, considerable waste to Turkey resulted from transporting lignite containing a high volume of ash, slate, and other foreign matter.

The particular quality of the coal beds at the Tunobilek mine further complicated the problem of insufficient washery equipment. Certain veins at this mine have been found to be quite low in ash and slate content. On the other hand, other seams have shown as much as 50 per cent of the total volume of run-of-the-mine coal to contain foreign matter. Such wide variation in the quality of lignite from this particular mine could not be removed by the existing washing facilities at the time the project began in early 1949. This problem, however, has been somewhat reduced by the recent installation of a 4,000 tons-per-day washing plant which was purchased from Germany. Recent reports from the American mission in Turkey indicate that great improvements in the quality of the lignite from this mine have been realised.

Although the western lignite project has not been able to meet certain production estimates made by various American coal experts at the beginning of the aid program, one of the major reasons for this failure is the greatly increased loss from washing. From a given volume of run-of-the-mine lignite, a much greater quantity of foreign matter is currently being removed by the new washeries than formerly. Therefore, even though substantial increases have been made in lignite production, actual marketable lignite has not increased proportionately. Moreover, certain new handling and sorting equipment has also contributed to this qualitative improvement in lignite. Consequently, even though recent statistics do not entirely reflect the total gains from the western lignite project, these "qualitative" gains nevertheless are very significant
for the Turkish economy.

The Role of Free Enterprise in the Turkish Lignite Industry

Private ownership and operation of lignite mines in western Turkey is much more prevalent than the operation of free enterprise in the bituminous coal industry. No actual figures are available indicating the exact number of private lignite mines in Turkey but estimates have been made that as much as 15 per cent of total lignite production originates from private mines. Of course, the overwhelming proportion of lignite is currently produced at the three government-owned mines located at Soma, Tunobilek, and Degirmisaz.

Since the Turkish government is much more interested in the development of bituminous coal at Zonguldak and since it isn’t likely that the government will relinquish control of this source of energy in the near future, perhaps a great opportunity lies in the private exploration and private exploitation of lignite in western Turkey. It would be reasonable to expect that the government would look favorably toward any proposal to expand private lignite facilities because of the present critical shortage of all forms of solid fuels throughout the economy. The serious shortage of capital and technical knowledge, however, might preclude such a possibility.

On the other hand, the Industrial Development Bank might provide loans and promote private operations. This new organisation which was initiated by the International Bank for Reconstruction and Development is committed to the task of promoting free enterprise throughout the Turkish economy. Since lignite is such a basic commodity, and since it is currently in such great demand, one might expect the Industrial
Development Bank or some similar type organization to sponsor various private projects in this particular field of mining.

General Description of the Western Lignite Project

The western lignite project consists of a program for the improvement and development of three separate mines located at the towns of Soma, Tuncbilek, and Degirmisaz in western Turkey. A map of Turkey (see Appendix B) indicates the approximate position of each of the three mines which make up the western lignite project. Insofar as the major categories of improvements are concerned, each of the three mines has been slated for three different major expenditures. These major categories of expenditures are for electromechanization of all the mines, new washery facilities at each of the mines, and new power plant facilities for all. Some of the more specific phases of these general development expenditures are perhaps worth mentioning.

The Soma mine has received by far the largest total expenditure for improvements in existing facilities. A 3,000 ton-a-day capacity washery was completed in 1952. An aerial tramway is currently being installed which was purchased from Germany. Miscellaneous equipment has been installed each year since 1949. Some of the equipment was not purchased until 1952 and some of it has not yet arrived in Turkey.

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8 Soma mine is situated in the extreme western part of Turkey approximately 60 kilometers east of the port of Dikili. Tuncbilek, on the other hand, is much farther inland and is about 11 kilometers north of the town of Tavsanli in the province of Kutahya. The third mine at Degirmisaz is located in the same province about 36 kilometers west of Tavsanli.

9 An example of some of this equipment is as follows: power station equipment, underground conveyor equipment, hoists, lathes, hammers, winches, drills, planes, grinding machinery and mine locomotives and cars.
Even though much of the equipment has been installed, a considerable portion of the new facilities at Soma is still in the construction stage.

The mine at Tuncbilek is also installing a washery which was purchased from Germany. This washing plant has a capacity of 4,000 metric tons per day. Its importance is especially significant because of the wide variation of the lignite deposits in this mine which was referred to earlier in this chapter. The completion of this washery is expected to improve significantly the quality of the lignite produced at Tuncbilek. Any significant increase in the actual production of run-of-the-mine lignite from this mine, however, is not expected until other types of mining equipment which are in the process of being installed are actually completed. Haulage, conveyor and shop equipment has been arriving and new trucks are being added to the project to improve the transportation facilities at Tuncbilek. The power station at this mine is being increased from 2,000 to 4,000 kwh capacity with the arrival of various power equipment from abroad.

The Degirmisaz mine has been scheduled for similar improvements in equipment. Miscellaneous surface and underground equipment including conveyors, pumps, and jack hammers have been installed and other developments are going on in transportation facilities at the mine. A simple jog-type washery with a capacity of 1,500 tons per day was purchased in Germany and is now in operation. A transmission line is being completed from Tunobilek to this mine at Degirmisaz in order to obtain surplus power which exists at Tunobilek. The power shortage at Degirmisaz, however, has been somewhat alleviated by the use of portable diesel
generators which will be relegated to auxiliary power facilities upon completion of the western lignite project.\textsuperscript{10}
ECONOMIC APPRAISAL OF THE WESTERN LIGNITE PROJECT

The period covered by an economic appraisal of this project is from 1949 through 1952, a period of approximately four years. The method of analysis is designed to determine the approximate efficiency of the total expenditures for western lignite improvement during the period. In determining the efficiency of expenditures, a ratio will be computed on the basis of total returns or gains for Turkey to total expenditures or costs of the project. As indicated earlier, such an approach attempts to simulate the comparable ratio used as an efficiency measurement in business; namely, "return on investment". Since investment data, as such, is unavailable for this project, the item of total expenditures will be substituted in the ratio. The final result, therefore, will be a ratio or return on expenditures rather than return on investment.

1. Total Expenditures on the Western Lignite Project

The figures given for expenditures in this section are simply general estimates of the total costs of the improvements for the first four years. Since a large proportion of the total improvements are still in the process of development, no absolutely precise or accurate data could be found which would show the actual expenditures as of a certain date. There are, however, rather reliable estimates of total expenditures for the first four years of the western lignite project which will provide a useful base upon which this section on economic analysis rests. These estimates of expenditures are provided in Table 21.

These expenditures show that the contribution to the total improvement by the United States, in terms of dollar expenditures, is the smallest of the three sources. Turkey bears the greatest burden of the
Table 21

Estimated Expenditures for Western Lignite Project

In Dollars by Source 1949 through 1952

<table>
<thead>
<tr>
<th>Name of Mine</th>
<th>ECA Funds</th>
<th>Other Foreign Currency</th>
<th>Local Currency Grants</th>
<th>Total All Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soma</td>
<td>$1,071,000</td>
<td>$ 761,134</td>
<td>$1,553,357</td>
<td>$3,385,491</td>
</tr>
<tr>
<td>Tuncbilek</td>
<td>719,000</td>
<td>800,000</td>
<td>806,360</td>
<td>2,325,360</td>
</tr>
<tr>
<td>Degirmisaz</td>
<td>181,000</td>
<td>540,000</td>
<td>311,661</td>
<td>1,032,661</td>
</tr>
<tr>
<td>Totals</td>
<td>$1,971,000</td>
<td>$2,101,134</td>
<td>$2,671,378</td>
<td>$6,743,512</td>
</tr>
</tbody>
</table>

over-all improvement program. The amount indicated for "other foreign currency" expenditure, however, is probably the item which deserves special consideration here. As indicated in the previous chapter, most of these funds are in the form of loans from various European countries and are negotiated, for the most part, through the European Payments Union. The $2,101,134, or certainly the majority of it, will have to be paid by Turkey through future exports and, therefore, acts as an extended burden upon the economy. Consequently, the possibility of meeting these delayed obligations is very much dependent upon the success of the western lignite project, as well as all the others, to increase the efficiency and the productivity of the entire Turkish economy.

Table 21 shows a total expenditure for the western lignite project from all sources of $6,743,512—a comparatively small sum. The roads project used approximately $66 million and the coal project about $57 million during the first "three" years. Nevertheless, the importance of each of these projects to the Turkish economy cannot be considered to be proportional to the expenditures on the various projects. Each project fills a definite need in the long range program for improving the economic efficiency of Turkey and no attempt will be made in this study to place these projects in any particular "order of importance."

2. Total Returns or Gains to Turkey from Western Lignite Project

The most logical figure to be used in the determination of total returns or gains to the Turkish economy as a result of the total expenditures on the lignite project would be the increased profits which have resulted from increased production at lower cost. Unfortunately, however, profits are not always made on government-operated ventures in
Turkey and that is particularly true in the lignite industry. Pricing methods which have been adopted here have not been determined by the cost of production which serves as the main base for pricing in private enterprise economies. In the absence of profits, therefore, some other measure must be used which will show the gains to the Turkish economy as a result of the improvements in the lignite industry.

The Eti Bank, the organization which administers the lignite project, has prepared a series of cost estimates for a ton of lignite for the period being considered in this study. These average total cost estimates have been determined for the year 1948 and for 1952 in order to show the change that has taken place during this period. Table 22 shows these cost estimates for each of the three mines in the western lignite project together with the average for the entire mining operation.

It is interesting to note from Table 22 that the Soma mine shows an increase in average unit cost during the four year period. Apparently this higher unit cost stems essentially from the much greater total investment in the mine as compared to the other two expenditures at Tuncbilek and Degirmisaz. (See Table 21.) Furthermore, the additional depreciation factor which would accompany this greater capital expenditure might perhaps account for some of this higher unit cost at Soma.

It must be emphasized, at this point, that these estimates in Table 22 were made in 1949 and may therefore be inaccurate when brought up-to-date. However, since most of the contemplated expenditures were known by this organization as early as 1949, and since actual production figures in 1952 were not far out of line with Eti Bank's estimates back in 1949, there is every reason to conclude that the cost data in Table 22 are not too far out of line with current experience.
### Table 22

Cost Estimates per Ton of Lignite at the Three Mines of

The Western Lignite Project

For Years 1948 and 1952

<table>
<thead>
<tr>
<th>Mine</th>
<th>1948 Average Unit Cost Estimates</th>
<th>1952 Average Unit Cost Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soma</td>
<td>$5.59</td>
<td>$5.83</td>
</tr>
<tr>
<td>Tuncbilek</td>
<td>6.73</td>
<td>6.10</td>
</tr>
<tr>
<td>Degirmisaz</td>
<td>6.31</td>
<td>5.52</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>$6.30</strong></td>
<td><strong>$5.72</strong></td>
</tr>
</tbody>
</table>

As suggested in the preceding paragraph, the item of depreciation was taken into consideration in the estimates shown in Table 22. The Eti Bank publication from which these estimates were taken does not explain exactly what the depreciation allowance was but simply indicated that depreciation entered into the estimates. Therefore, the return computed for the western lignite project will be a net return because of this depreciation allowance.

The reduction in unit cost from 1948 to 1952 as shown in Table 22 amounts to $0.58 for every ton of lignite mined during the latter year. The next step in determining the total net return of the lignite project, therefore, is to obtain the actual amount of lignite production for 1952. The closest estimate obtainable for actual production of salable lignite in 1952 is 878,350 metric tons.\(^{11}\) Since each of these tons mined in 1952 would benefit from the $0.58 per unit cost savings, the total net gain to Turkey as a result of the lignite project would be $509,443.\(^{12}\)

This estimated net return figure of $509,443, which is based on the year 1952, when expressed as a ratio of total expenditures from all sources ($6,743,512) would amount to almost 8 per cent. This ratio of 8 per cent may be referred to as the Net Annual Return on Expenditures. It is interesting to note that this ratio is almost as much as that recorded for Zonguldak coal in the preceding chapter. The net annual

\(^{11}\) This figure was supplied by the Industry Division of the Mutual Security Agency during a visit to this office in Washington, D.C. in December 1952. The estimate was obtained during a recent visit to Turkey by one of the members of this division.

\(^{12}\) Determined by multiplying total marketable lignite production of 878,350 metric tons times the average total savings estimated to be $0.58 per ton for that year.
return on the Zonguldak coal project was found to be approximately 9 per cent.

3. Significance of 8 Per Cent Net Annual Return on Expenditures

The most noteworthy feature in the accomplishment of an 8 per cent return lies in the time interval during which this net return was recorded. Even though expenditures started as early as 1949, the project did not really begin to show progress until 1950 and much of the total improvement has not been completed at this writing in early 1953. In spite of these handicaps, however, the project has shown rather substantial results. Even if no further gains above these annual estimates were obtained in the future, the total expenditures for the first four years would still be recovered in about 12 years. And since it would be reasonable to conclude that when the project is eventually completed the savings from lower unit costs will be considerably greater than those shown for 1952; there is every reason to believe that this ratio will rise accordingly. In other words, the completed project should result in much greater production and considerably lower costs than those shown above. The net result would undoubtedly be a much higher ratio since expenditures are not likely to change significantly during the next few years. Since the project is not expected to be completed until sometime in 1954, it seems especially significant that the savings in lignite costs for a one-year period as early as 1952 could show a recovery of 8 per cent of the total cost of the project at least two years before its expected completion date.

In this discussion of the significance of the 8 per cent return, perhaps attention should also be called to the fact that the cleaner coal
and greater washing losses which accompanied the installation of new washeries actually tends to retard or understate the true return ratio. In other words, if no quality improvement had taken place as a result of the removal of considerable amounts of ash, slate and other foreign matter from the lignite, then the estimate of 878,350 metric tons mined in 1952 would have been considerably higher. This, in turn, would have been reflected in a somewhat larger return ratio. Therefore, the 8 percent return ratio might be more significant than it appears when one remembers that it includes a cleaner type of higher quality lignite than existed at the beginning of the western lignite project in 1949.

Limitations of the Foregoing Economic Analysis

As indicated in the preceding paragraph, one of the major limitations to the foregoing economic analysis is that it failed to take into consideration the higher quality of the lignite which resulted from the improvement project. A purely quantitative analysis, in other words, simply does not reflect the full measure of the direct gain or return resulting from total expenditures on a project of this type. Of course, any purely quantitative analysis generally runs into this major limitation since qualitative improvement is practically impossible to assess in any economic analysis. Therefore, it can simply be stated that considerable qualitative change did, in fact, take place at the western lignite project and that this improvement in the lignite tends to increase somewhat the final gains or returns shown by the expenditures for the western lignite project.

Another rather serious limitation to the findings in the preceding section of this chapter is that they were obtained at least two years
before the scheduled completion of the project. Since much of the total improvement of the western lignite mines is still going on, the results determined by this study probably do not accurately show the full impact of these improvements. In spite of this shortcoming, however, it would seem that the above return ratio does give a general idea of what is likely to be expected when the total project is finished and all parts begin to serve their proper function. Then one could logically expect a considerably higher ratio of net return or gain to the economy of Turkey from the total expenditures of the western lignite project.

Another very important limitation of the economic analysis in the preceding section is that the results fail to reflect the added gain to the economy of Turkey which will result from the release of more Zonguldak coal for the export market. Because of Turkey's very weak foreign payments situation, Zonguldak coal offers an excellent opportunity for Turkey to overcome one of her most pressing problems. But as long as the critical fuel shortage exists in Turkey, no real hope can be held for the solution of her foreign debt problem. Lignite seems to be of very strategic importance, therefore, not only to help alleviate this critical fuel problem but to serve also as the principal substitute for Zonguldak coal so that this latter form of fuel can be exported as payment for a large portion of Turkey's growing foreign debt.

Summary

The many uses of lignite in the Turkish economy have only recently received attention. Various technical advisers, in 1948, began to see the opportunity for substitution of this form of energy for many uses which had formerly relied entirely on bituminous coal. Probably the major
reason for attention being diverted to this form of low-grade coal lies in the growing intensity of the coal shortage during the past few years. In spite of many new uses for this inferior grade of coal, it is felt by many technical advisers to Turkey that much greater use should be made by the country of this commodity. Suggestions have been made for an advertising campaign to show the many uses for which this fuel could serve efficiently and economically.

The western lignite project consists of three separate government mines in western Turkey. The major expenditures for these mines have been in new washery equipment, electromechanization, and power plant facilities. The results of this expenditure have thus far shown considerable improvements in the quality of the lignite. In fact, the cleaner lignite which has resulted from modern washeries has caused a reduced rate of increase in production of marketable lignite because of the greater losses through washing.

Even though the project is not expected to be completed until 1954, rather substantial results have already been recorded as early as 1952. It has been estimated that the year 1952 produced a net return to the economy of Turkey of 8 per cent of total expenditures. In other words, the savings resulting from the project would be sufficient, in about 12 years, to equal the total cost of the project during its first four years. When this project is completed an even higher ratio is expected. The lignite industry, therefore, is expected to aid materially in the solution of the critical coal shortage in Turkey. Furthermore, it should also serve to release more and more Zonguldak coal for exporting and help to alleviate the serious foreign trade deficit problem.
CHAPTER IX

ESTABLISHMENT OF THE SARIYAR HYDROELECTRIC POWER PROJECT

The Sariyar hydroelectric power project is located on the Sakarya River near the town of Sariyar which is approximately 80 miles west of the capital at Ankara.¹ This project is the first large hydroelectric power plant undertaken by the government of Turkey. The region which the new installation will serve is referred to as "northwest Anatolia" and is Turkey's most developed and densely populated area. With the large cities, coal fields, steel mills and other industries, this region consumes approximately 68 per cent of the electric energy produced in the country.²

This project at Sariyar is visualized as the key segment of the power grid which is expected ultimately to encompass the entire country. Therefore, this is the first major attempt to establish in Turkey the pattern for a national system of electric energy generation. Previous development was characterized by lack of an interconnected, low-cost system to supply the greatly needed electric power for Turkish industry.

¹ See map in Appendix B of this study for a better idea of the exact location of the Sariyar hydroelectric power project.
² Northwest Anatolia comprises the three principal cities of Istanbul (population 1,040,515), Ankara (population 286,781) and Kirikkale (population 15,495). The latter is one of the important industrial centers of Turkey. Moreover, this region includes the Zonguldak bituminous coal basin as well as the Karabuk Steel Works both of which are short of electric power.
Moreover, there was no integration of the separate generating plants by cross-country power lines. Installation of power plants, therefore, was generally made on the basis of local and immediate requirements so that in one municipality industrial power might be privately generated while street and home lighting might be supplied by a small plant owned by the city. In another town an industrial plant might service the domestic needs of the community from its own excess capacity. After the completion of the Sariyar hydroelectric power project, other similar projects are expected to be initiated in order to increase the production of electric power to meet the needs of an expanding economy. The so-called Turkish Power Program, therefore, has been designed as the master plan to develop new hydroelectric power projects and to integrate all separate producing plants into one national system.

**Importance of Hydroelectric Power Development**

At present, the production of electric power in Turkey is handled by a large number of entirely separate power plants widely dispersed throughout the country. This situation makes for inefficient use of labor and management as well as the uneconomic duplication of capital equipment and plant capacity. The major purpose of Sariyar, therefore, is to centralize the production of electric energy throughout northwest Anatolia and to substitute a cheaper source of power for the generation of this electricity.

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3 In 1947 there were 284 power plants in Turkey with 196 classified as public utility stations and yet only 8 of these had capacity larger than 1,000 kw. Furthermore, of the 88 which were classified as industrial stations, only 30 exceeded 1,000 kw.
Because of the great demand for electric energy in Turkey at the present time as well as growing estimates for the future, it is not contemplated that all of the present thermal plants, utilizing coal as the principal energy source, will be rendered obsolete immediately. The report of the International Engineering Company, referred to more specifically in a later section of this chapter, suggests that Sariyar production could be used to replace a few of the smaller thermal plants which produce a relatively small amount of the electricity at high cost.

Another engineering survey\(^4\) suggests that the existing thermal plants at Izmit Paper Factory and Ankara Municipal could be shut down completely and held in reserve and the existing Istanbul Municipal plant could be utilized primarily to furnish peak capacity for the proposed transmission system.

A second factor which should help to highlight the importance of this project is that much more power will be available than exists under present facilities. Even if the high-cost, inefficient thermal plants close down completely, there would still remain approximately 285,000,000 kw of thermal production annually. With the completion of Sariyar, therefore, the total annual production of electric energy will approximate 628,000,000 kw.\(^5\) There are indications that this greater capacity will

\(^4\) Stone and Webster, *Power Supply Northwest Anatolia*, ECA document dated March 31, 1949, p. 4. This report points out also that any surplus capacity which may develop will diminish as the energy requirements of the Zonguldak coal region and the steel mills at Karabuk attain their expected magnitude. A considerable increase in load on Sariyar should accompany this anticipated growth of these principal industries.

\(^5\) It is interesting to note that a recent report received by MSA/ Washington from the mission in Turkey reveals that energy demands in Northwest Anatolia are expected to exceed 800,000,000 kw per year by the completion of Sariyar in 1954. These new estimates are based on increased national defense loads and expected business activity throughout the country. (Report of the Mission dated May 21, 1952, addressed to Projects Branch, Facilities & Equipment Division, MSA, p. 7.)
be more than offset by industrial expansion. The power loads in Ankara have been increasing about 2,000 kw per year so that the city's plant is not expected to be able to carry the load beyond October of 1953. Istanbul is also short of electric power and the city has recently negotiated a contract with the Sariyar hydroelectric development for a large portion of the power expected to be generated there. Furthermore, increased capacity of electric power is expected to open up much of the excellent agricultural territory in northwest Anatolia through the electric transmission system connecting Sariyar with every major town throughout the northwest region.6

Another major benefit from Sariyar may be found in the reduction of such wide variance in rates for electric energy. With an interconnected system of power generation, the price to the consumer should be relatively constant throughout the region served by this project. Not only is it expected that rates will show little variance from one locality to the other, but the over-all rate to the industrial and domestic consumer should be substantially reduced. This should have a marked effect on the demand for electric energy by both.7

The importance of hydroelectric power to Turkey has never been greater than at the present time. Increased power facilities through the utilization of rather inexpensive water power should aid materially

6 "There is little question but that Turkey needs every kilowatt of electric power which it can reasonably obtain. On a population basis, the U.S. carries 2300 kw of installed capacity per capita; in France and Germany about 650 and 700 kw per capita, and Turkey has only 33 kw per capita. Ibid., p. 8.

7 Domestic use of electric power in Turkey amounts to less than 10 per cent of the total available. Ibid.
in meeting the goal of greater industrialization of the country. In the midst of a severe coal shortage and an inadequacy of export items to meet a growing deficit in international trade, Turkey has the opportunity to alleviate this coal shortage and to export the resulting surpluses of this solid fuel if she can obtain an alternative source of energy for electric power generation. The logical solution appears to be greater use of hydroelectric power. The Sariyar hydroelectric power project is, therefore, a step in the right direction and the results of this project will, no doubt, form the basis upon which to plan similar projects for Turkey in the future.8

8 "Turkey, and the northwest Anatolia region in particular, is suffering from a shortage of electric energy. The electric energy requirements of industrial and domestic customers in the region cannot be met with the present facilities. This lack of electric energy is retarding the Turkish economy and coal is being burned in obsolete and inefficient small plants which could be exported to aid European recovery or otherwise utilised domestically. Unless the Sariyar project is constructed, at least the equivalent in thermal capacity will have to be provided through the expansion of existing plants to meet the present and future requirements for electric energy. This thermal energy will not be as economical as the hydroelectric energy generated at Sariyar." Dorr, Russell H., Chief Special Mission to Turkey, Report on Sariyar Hydroelectric Power Project, August 7, 1950, p. 4.

Major Problems Faced by American Advisers

One of the greatest problems from the start has been the delays which have resulted in falling behind the original construction schedules. At this time in early 1953, therefore, it is very doubtful whether the project will be on the electric grid by the scheduled date of October 1954. One of the more recent major problems is the report that the large tunnel, which was just about completed, had caved-in apparently as a result of the floods which swelled the Sakarya River in late 1952. This great 1200 meter tunnel through which the accumulated waters of the dam
would flow, is now in the process of reconstruction and there is no indication as to the expected date of completion. This delay, along with many others, has created a rather serious problem for the technical advisers on the project.

The problem of seasonal floods throughout the northwest region of Turkey has caused considerable difficulty at Sariyar. Recent requests have been made to Eti Bank to authorize the dam contractor to put in a temporary spillway so that future work on the dam will not be held up for an estimated period of as much as eight months because of high water conditions. This flood factor has been another of the major reasons for the inability of the Charles T. Main Contracting Company, which has received the bid for construction of the dam, to meet their schedule dates for the completion of certain phases of construction work at Sariyar.

Another problem concerns the apparent shortage of electric power for construction purposes. It appears that several thousand additional kw are necessary for construction of the dam in addition to what Eti Bank has already furnished. Recommendations have been made that new electric generating equipment will have to be installed if further delays of the dam construction are to be avoided. At the present time, there is no provision for financing this additional construction cost which reportedly was not allowed for in the original financial estimates.

The shortage of equipment and operating crews at Sariyar is reported to be rather acute and another of the major causes of the delay in construction of the dam. On-the-job training has been somewhat successful but there is still a great dearth of heavy construction personnel of
all types throughout Turkey. It is reported that the American contracting company, Charles T. Main, has had to resort to the technique of bringing in his own construction personnel in order to meet construction schedules. This naturally results in added expense for the project and does not help to solve the problem of the untrained workers throughout Turkey.

**Description of the Project**

The Sariyar hydroelectric power project is divided into five major installations. The first major division of the project is the gravity-section concrete dam which will be 360 feet high with a 300 foot wide base. This large dam on the Sakarya River will have a reservoir capacity of 1.85 billion cubic meters of water. The dam will require 700,000 cubic yards of concrete and will have a spillway capacity to handle 300,000 cubic feet of flood water per second through six separate escape gates.

The second main installation is the large intake tunnel which is now being reconstructed after the cave-in of 1952. This tunnel will have a 28 foot inside diameter with an 18 inch concrete lining and is being driven through solid rock. The third major division of the project is the hydroelectric power plant which will be located approximately one kilometer downstream from the dam. The installed capacity of this power plant will be only 80,000 kw at the expected date of completion in October 1954. However, provision has been made to accommodate three additional power units as soon as funds are available to obtain this additional power equipment. When these new units are obtained, the installed capacity at Sariyar will be 320,000 kw.
The fourth major installation of the project is the large transmission system which consists of some 234 miles of power line which will connect a number of important industrial areas including Istanbul, Ankara and Kirikkale. Finally, the transformer stations to be constructed at Adapazari, Istanbul, Ankara, Kirikkale, Izmit, Karabuk and Catalagzi will make up the last major installation in the overall Sariyar hydroelectric power project.

This project is designed not only to increase the production of electric energy throughout Northwest Anatolia but also to serve two other major functions. Probably the most important of these two latter objectives would be the control of the periodic floods of the Sakarya River. These floods have created great disasters in the past both in loss of lives and destruction of rich farm land. The third purpose of the Sariyar project concerns the irrigation possibilities of the water in the Sariyar reservoir. If the agricultural lands in the region could obtain water from this source, much greater agricultural productivity should be the result. Advisers at the project have estimated that effective, low-cost irrigation could be developed as a by-product of the Sariyar hydroelectric power project. Increased agricultural productivity, as pointed out earlier, has very interesting international trade implications.
ECONOMIC APPRAISAL OF THE SARIYAR HYDROELECTRIC POWER PROJECT

The period covered by the following analysis is from the end of 1949 through 1954, a period of approximately 5 years. The major objective of this analysis is to determine the approximate efficiency of the total expenditures for the Sariyar hydroelectric power project during the first five years of its existence. In determining this efficiency of expenditures, a ratio will be computed on the basis of total returns or gains for Turkey to total expenditures or investment. As suggested in previous chapters, this approach attempts to use approximately the same general methods in popular use by businesses in measuring their overall operational efficiency. Since the hydroelectric power project did not exist prior to American aid, the total expenditures for this project will amount to total investment in hydroelectric power. Therefore, the final ratio determined in this analysis will be the same as used in business; namely, return on investment.

1. Total Investment in the Sariyar Hydroelectric Power Project

The figures given for total investment in this section are considered by Mutual Security Agency officials to be reliable. A report made by the Mutual Security Agency in April of 1952 indicates that the original estimates for the project, established in 1950, are conforming to actual experience insofar as total expenditures for the various phases of the project is concerned. Therefore, the data supplied in Tables 23 and 24 are probably very close estimates to the actual cost of the Sariyar hydroelectric power project in central Turkey.

Table 23 gives the total investment from foreign sources. It includes both American aid as well as loans from various European countries.
Table 23

Estimated Investment for the Sariyar Hydroelectric Power Project
In Turkey by Source from 1949 through 1954

<table>
<thead>
<tr>
<th>Program Year</th>
<th>American Aid (ECA-MSA Aid Grants)</th>
<th>Other Foreign Source*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949/50</td>
<td>$1,300,000</td>
<td>$———</td>
</tr>
<tr>
<td>1950/51</td>
<td>2,900,000</td>
<td>9,400,000</td>
</tr>
<tr>
<td>1951/52</td>
<td>2,000,000</td>
<td>6,600,000</td>
</tr>
<tr>
<td>1952/53</td>
<td>1,500,000</td>
<td>3,000,000</td>
</tr>
<tr>
<td>1953/54</td>
<td>500,000</td>
<td>——</td>
</tr>
<tr>
<td>Totals</td>
<td>$8,200,000</td>
<td>$19,000,000</td>
</tr>
</tbody>
</table>

* Funds from this source consist of loans from various European countries from which materials, equipment, and supplies for the project was obtained. Most of the loans were obtained through the organization of the European Payments Union.

Source: Project Agreement, Economic Cooperation Agreement Between the United States of America and the Republic of Turkey. September 21, 1950, p. 3.
Most of the European loans consist of credits established by Turkey through the European Payments Union. It is significant that these latter loans amount to more than twice the total received in the form of direct grants from American aid. This fact suggests the great burden which Turkey has assumed in order to obtain this much desired and costly project designed to increase significantly the amount of cheap electricity throughout the country. Turkey's main hope is that the added productivity and efficiency of industry which is likely to result from the greater quantities of inexpensive power will make possible the greater exportation of goods to meet her growing foreign obligations.

Table 2 shows the contribution by Turkey to the Sariyar hydroelectric power project. It is interesting to note from this table that the cities of Istanbul and Ankara are supplying almost two-thirds of the total investment supplied by Turkey. These municipalities have assured the funds over a period of years and the yearly appropriations from municipal budgets of the cities will probably not be unreasonable for them to assume. It has been stated by the Turkish press that the funds will be obtained by means of economies in the municipal budgets of the cities. These two cities have made significant contributions to the project because they expect the additional power resulting from the project to amortize the expenditures in a relatively short period of time. As previously mentioned, the transmission lines will convey this power for sale in each of these cities. Istanbul and Ankara, therefore,

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9 Economic Cooperation Administration, Turkish News Items of Economic Interest, ECA Special Mission to Turkey, Translation Service, July 9, 1951, p. 3.
Table 24

Estimated Investment for the Sariyar Hydroelectric Power Project
Contributed by the Economy of Turkey by Source, 1950

<table>
<thead>
<tr>
<th>Source of Funds</th>
<th>Amount in Turkish Lira</th>
<th>Equivalent in Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Istanbul Municipality</td>
<td>32,000,000</td>
<td>$11,427,200</td>
</tr>
<tr>
<td>Ankara Municipality</td>
<td>6,500,000</td>
<td>$2,321,150</td>
</tr>
<tr>
<td>Iller Bank</td>
<td>3,500,000</td>
<td>$1,356,980</td>
</tr>
<tr>
<td>Eti Bank</td>
<td>1,500,000</td>
<td>$535,650</td>
</tr>
<tr>
<td>Ministry of Public Roads</td>
<td>12,000,000</td>
<td>$4,285,200</td>
</tr>
<tr>
<td></td>
<td>55,800,000</td>
<td>$19,926,180</td>
</tr>
</tbody>
</table>

Source: Project Agreement, Economic Cooperation Agreement Between the United States of America and the Republic of Turkey. September 21, 1950, p. 3.
will be the chief recipients of the hydroelectric power from Sariyar.\textsuperscript{10}

Table 24 also reveals the fact that the contribution of the Ministry of Public Roads makes up more than 20 per cent of the total funds supplied by the Turkish economy to this project. Furthermore, attention should be called to the fact that the total contribution by the Turkish economy matches almost exactly that of the foreign loans which came largely from European countries.

The total investment in the Sariyar hydroelectric power project from all sources amounts to $47,126,180. The American aid investment of $8,200,000 is a revision downward from the earlier estimate of $24,050,000 by the Economic Cooperation Administration. However, the original estimated total cost for the project was only $41,550,000 so that the latest estimate of $47,126,180 amounts to an aggregate upward revision. In terms of total costs of the project, the Sariyar hydroelectric power project ranks third in comparison to the roads project ($66 million) and the coal project ($57 million).

2. Total Returns or Gains to Turkey from Sariyar Hydroelectric Project

For purposes of this analysis, the estimated reduction in the cost per kwh of electric energy produced will serve as the basis for measuring the returns to the Turkish economy resulting from the total investment at Sariyar. Since there is no present hydroelectric power generated in

\textsuperscript{10} It is significant that all the organizations, shown in the preceding table, pledged their support to the project, as evidenced by their respective commitments, even though they may not have sufficient funds available to meet their respective pledges. Therefore, it is anticipated that 35,000,000 of the total 55,800,000 TL pledged will be borrowed from the Old Age and Pension Funds and 3,300,000 TL will be borrowed from Eti Bank.
Turkey from which to measure these returns, an average cost of thermal power will be used as a base. Table 25 represents a number of major thermal power stations throughout northwest Turkey in order to arrive at an average unit cost of electric energy for the section of the country to be serviced by Sariyar. The average cost for thermal power is estimated to be $.0147 per kwh. This unit cost of about one and one-half cent per kwh represents a weighted average based on relative production of the various thermal stations included in Table 25.

In order to arrive at the savings in unit cost as a result of Sariyar hydroelectric power, the estimated cost per kwh at this new installation must be determined. It has been estimated that the hydroelectric project will produce 343,000,000 kwh per year when completed. Furthermore, the estimated total fixed and variable costs of production annually at Sariyar have been estimated to be $970,900.11 With 343,000,000 kwh produced each year, the average total cost of electric power per kwh would be $.00283.12

The next step in the analysis is to determine the difference in cost of thermal production as compared to hydroelectric power at Sariyar. Since it was estimated that the average cost of thermal power in the region serviced by Sariyar is $.0147 and that the cost of hydroelectric power will be $.00283 when the project is completed, the actual savings as a result of the Sariyar hydroelectric power project will be $.01187

12 Determined by dividing $970,900 by 343,000,000 estimated total annual kwh production at Sariyar.
Table 25

Production of Thermal Energy at Certain Selected Plants in Northwest Anatolia in 1947

<table>
<thead>
<tr>
<th>Location of Plant</th>
<th>Production of kwh at Plant</th>
<th>Cost per kwh (U.S. cents)</th>
<th>Total Cost of Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Istanbul Municipal</td>
<td>199,316,000</td>
<td>$.01236</td>
<td>$2,463,545.76</td>
</tr>
<tr>
<td>Izmit Paper Factory</td>
<td>29,480,000</td>
<td>$.01265</td>
<td>372,922.00</td>
</tr>
<tr>
<td>Izmit Chlore Factory</td>
<td>4,497,000</td>
<td>$.0320</td>
<td>143,904.00</td>
</tr>
<tr>
<td>Hereke Textile Factory</td>
<td>2,042,000</td>
<td>$.0510</td>
<td>104,142.00</td>
</tr>
<tr>
<td>Adapazari Agricultural Machine Factory</td>
<td>799,000</td>
<td>$.0990</td>
<td>79,101.00</td>
</tr>
<tr>
<td>Ankara Municipal</td>
<td>36,745,000</td>
<td>$.02185</td>
<td>802,878.25</td>
</tr>
<tr>
<td>Kirikkale Ordnance</td>
<td>16,443,000</td>
<td>$.0155</td>
<td>254,866.50</td>
</tr>
<tr>
<td>Elmadag Ordnance</td>
<td>1,270,000</td>
<td>$.0657</td>
<td>83,439.00</td>
</tr>
<tr>
<td>Totals</td>
<td>290,594,000</td>
<td>$.0147*</td>
<td>$4,304,798.51</td>
</tr>
</tbody>
</table>

*Weighted Average

per kwh produced. Moreover, since total production is expected to approximate 31,3,000,000 kwh, the total savings to the economy of Turkey will be $1,071,410 annually.\(^{13}\)

In order to arrive at a ratio of net return on investment, the annual savings of $1,071,410 must be related to total investment which was estimated previously to be $17,126,180. The result is found to be almost 9 per cent. Since depreciation was calculated within the annual savings figure of $1,071,410, this ratio may be referred to as a 9 per cent Net Annual Return on Investment. It is rather significant that the Zonguldak Coal Project also showed a 9 per cent net annual return and that the western lignite project showed a similar return of around 8 per cent annually. Attention should be called, however, to the fact that these latter two projects were based on "expenditures" whereas Sariyar used a base of "investment" upon which to determine the return to the economy of Turkey.

3. **Significance of 9 Per Cent Net Annual Return on Investment**

Probably the most significant fact which is reflected in this 9 per cent return to Turkey is that the savings in cost of electric energy from the new project will be sufficient in approximately 11 years to regain for the economy the total amount invested in the project from all sources. Furthermore, the fact that the estimated unit cost per kwh at Sariyar includes a rather large depreciation factor whereas the unit cost estimated for thermal production probably contains little, if any, Determined by multiplying 31,3,000,000 kwh times $.01187 unit savings per kwh.
depreciation; it is surprising that a return as high as 9 per cent could
be obtained under these circumstances. 14

Perhaps another fact should be mentioned in regard to the 9 per cent
return. In the previous chapters, returns of 43 per cent, 9 per cent
and 8 per cent, respectively, were determined from each project expendi­
ture. Moreover, in each of these projects rather radical change took
place from more or less manual operations to that of modern mechanized
techniques. One might expect the modern mechanized road construction
methods, for example, to produce rather substantial gains. Furthermore,
the change at Zonguldak and at the western lignite mines to modern
machinery and modern mining methods could be expected to produce rather
substantial returns. In all three of these projects, prior to American
aid, a large segment of the work carried on was handled by unskilled
manual labor as discussed earlier. Therefore, any significant switch to
the use of machinery from hand methods would logically produce rather
marked results. At Sariyar, on the other hand, such a drastic change­
over will not be experienced. While it is true that better and more
efficient equipment will be utilized, still one could say that Sariyar
is characterized by a change from a less efficient type of mechanization
to a more efficient mechanized operation. In other words, electric
energy whether produced by thermal or water power requires costly machin­
ery. Therefore, since the changeover at Sariyar is not nearly so pro­
nounced as that of the other projects, the 9 per cent return ratio would

14 Most of the thermal power plants in Turkey from which the average
unit cost per kwh was determined are old and the equipment is obsolete.
Therefore, any depreciation allowance computed within the total unit cost
estimate in each of these antiquated plants would, in all probability,
be quite small indeed.
Limitations of the Foregoing Economic Analysis

One of the main limitations in the foregoing analysis concerns the figure used for total investment ($1,712,618). Almost $114,000,000 of this total investment figure is being used for the transmission lines for transmitting the generated power throughout the entire northwest Anatolia region. Since present thermal production—that which is to be maintained as a supplement to Sariyar—will also use these transmission lines to some extent, it would seem somewhat illogical for Sariyar to be charged with this entire burden of cost in the computation of its net annual return. Conceivably some reduction should be made from the total investment figure, therefore, in order to allow for this fact. If such an allowance were made, the result should be a more substantial return attributable to Sariyar. Since it would be most difficult, however, to estimate exactly how much this amount should be reduced, it will suffice to say that the return ratio computed for Sariyar is inclined to be somewhat conservative.

Another limitation of the preceding section relates to the reliability of the data used throughout. The Sariyar hydroelectric power project, in contrast to the other projects, cannot show any return whatsoever until the entire project is complete. For this reason, almost every figure used, with the possible exception of the total investment estimate, actually amounts to a rather long-range guess of what should be experi-

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enced several years from now. Furthermore, many of these future estimates were determined as early as 1949. They were determined, for the most part, by engineering firms whose personnel could not possibly understand all of the variety and complexity of forces at work within the economy of Turkey. As an example of this limitation at Sariyar, perhaps the estimate of total production should be mentioned. The International Engineering Company, as pointed out earlier, estimated annual production at Sariyar to be 343,000,000 kwh when the project is completed. Unless all of the four main power stations can be installed, it is doubtful if such a prediction is accurate. Moreover, only one of the power plants is expected to be installed by the proposed completion date of October 1954. It would appear, therefore, that the above production estimate may not be realized until sometime in 1955 or maybe as late as 1956. It would depend, of course, upon the available funds for adding these additional power plants.

A final limitation in regard to the foregoing analysis is the failure to reflect various qualitative improvements or gains to Turkey resulting from Sariyar. For example, the possibilities for agricultural improvement through greater irrigation by water from the Sariyar reservoir are not considered in the above quantitative analysis. Furthermore, the above economic appraisal fails to measure the benefits to be derived from the value of the savings in coal which are expected to result from
Sariyar. Obviously, if the additional return to Turkey, which should result from this release of coal for other purposes, could be determined and then added to the net gain of 9 per cent calculated in the previous section, a much more substantial return ratio would result from the investment in the Sariyar hydroelectric power project.

Summary

Electric power is greatly needed in Turkey in order to meet the demands of greatly expanding industrial economy. Present power plants consist mainly of numerous, widely-scattered thermal units with very low productive capacity and wide variation in total average cost from one plant to the other. There is no interconnected "system" of power generation and transmission throughout the country even though such an integrated power system is sorely needed. The initial step in the Turkish Power Program to develop a national system of electric energy generation is afforded by the Sariyar hydroelectric power project.

When completed, this project is expected to produce the majority of all electric energy consumed throughout the major industrial region of Turkey known as northwest Anatolia. Eventually, as more hydroelectric

16 Perhaps the best measure of the benefits to be derived from the full power production of the proposed Sariyar hydroelectric power plant is the value of the equivalent coal in terms of net profit and foreign exchange. The cost of producing Zonguldak coal is reported to be $10.35 per metric ton, and selling price in the Mediterranean area $20.00 per ton. The reduction in quantity of coal required from steam power plants (241,000) would therefore represent $2,325,650 net profit, or $4,820,000 additional foreign exchange annually. The market for this coal exists, and the Turkish nation would benefit substantially from the release of such coal production either for sale abroad or for expansion of Turkish industries other than power. (Report on Economics of Sariyar Hydroelectric Project, Sakarya River, Turkey, Prepared for the Government of Turkey by International Engineering Company, Inc., San Francisco, Calif., May 1949, p. 23.)
power plants are developed, thermal production will be relegated to the minor role of stand-by capacity to be used only during peak loads upon the transmission lines.

Sariyar is expected to return to the Turkish economy, in approximately eleven years, the total amount spent for its development. Such a return will be derived from the lower cost of electric power generated at Sariyar. In addition, important benefits to Turkey are expected to result from flood control, greater irrigation of farm lands in the vicinity, and considerable savings in coal which can then be diverted to foreign markets. The Sariyar hydroelectric power project, therefore, is likely to become one of the most important contributions of the entire American aid program to the future development of the economy of Turkey. Attention will now be turned to the fifth and last major project of the American aid program, the development of iron ore at Divriği.
CHAPTER X

DEVELOPMENT OF IRON ORE PRODUCTION AT THE DIVRIGI IRON MINES

The last project of this series concerns the increase in the production of iron ore in Turkey. The iron ore deposits of Turkey are located about five kilometers northwest of the town of Livrigi in the county of the same name.¹ There are three separate deposits of iron ore in the vicinity of Divrigi with each designated by the letters A, B and C. The "A" orebody has a reserve of some 30,000,000 tons of magnetite ore which has an average of 2 per cent sulphur. This particular ore requires a desulphurization process before it can be used in the steel mills. "B" and "C" orebodies, on the other hand, are quite small in comparison with an estimated 1,000,000 ton reserve of sulphur-free hematite ore.

Importance of Iron Ore Development

"Iron ranks next in importance to coal in building basic industry in Turkey."² There is, at the present time, a great demand for iron and steel throughout the country and as industrialization develops there is expected to be a critical shortage of these most basic commodities unless significant improvements are made in their production. The reali-

¹ See Appendix B showing map which provides the approximate location of this project in Turkey.
zation of this project, therefore, should aid Turkey in meeting these increased domestic requirements for iron and steel. Furthermore, the expected lower cost of these basic commodities is likely to further stimulate demand for them throughout the country.

The importance of the project in the field of international trade cannot be overlooked. There is a definite market for the iron ore itself in the world market. But more important is the fact that pig iron and ingot steel are both in great demand throughout most of the countries of Europe. The development of the Divrigi iron mines is expected to make possible the eventual export of 190,000 tons of pig iron and 30,000 tons of ingot steel to the European countries. These estimates, however, are based upon the assumption that there will be sufficient coke available to produce this iron and steel and that new equipment will be installed at the steel mills to desulphurize the iron ore from Divrigi. As indicated above, this iron ore at "A" orebody contains 2 per cent sulphur whereas pig iron production requires iron ore to have no more than .5 per cent. A desulphurization plant, incidentally, is being considered for installation in the near future.

The eventual export of pig iron is expected to materially aid Turkey in her foreign exchange position. A recent estimate has been worked out to determine the total cost of this pig iron to Turkey. At present costs for both coke and iron ore together with the necessary railroad transportation expense, it is estimated that pig iron can be produced in Turkey for about $1.88 per metric ton. With foreign market prices ranging as high as $70 per ton, perhaps greater importance should be placed on this project which is designed to increase the quantity and
quality of iron ore in Turkey.  

**Major Problems Faced by American Advisers at Divrigi**

The most overwhelming problem faced by the advisers at Divrigi is the total lack of coordination between iron ore production, on the one hand, and steel production on the other. One of the main reasons for this lack of coordination is that the Sumer Bank controls the only steel mill in Turkey which is located at Karabuk. The Divirigi iron mines, on the other hand, are controlled by the Eti Bank. Since the Karabuk steel mills were not included in the American aid program—except for a very small grant covering a few pieces of inexpensive equipment—there was little possibility that the American advisers could accomplish much in developing a greater integration of iron and steel into one cohesive industry in Turkey. As an example of the problem of lack of coordination, the increased production of iron ore at Divrigi cannot be utilized until the Sumer Bank obtains a desulphurization plant at Karabuk. Until recently, however, there has been evidence of a general lack of concern about this equipment at Karabuk with the result that a large part of the iron ore cannot be processed in Turkey. This, in turn, prevents a considerable portion of iron and steel from reaching both the domestic and foreign markets.

Another great problem, of equal significance, concerns the location of the Karabuk steel mill in relation to the iron mines at Divrigi. The steel mill was established several years before the potentialities of

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iron ore at Divrigi had been discovered. When the site for the steel mill was chosen (at Karabuk), it was thought that the furnaces would use imported ore. The fact that a survey of native iron resources should have been the logical preliminary to the erection of a large and costly modern steel plant simply emphasizes the lack of industrial know-how on the part of the Turks. At any rate, the site chosen is separated from the Black Sea coast by mountains across which coal for the plant must be transported by rail a minimum distance of 45 miles. Moreover, the finished product at Karabuk must then be shipped back across the mountains on its way to both domestic and international markets.

A much more important transportation problem than that just mentioned, however, concerns the source of the iron ore used at the Karabuk steel mill. The Divrigi iron mines are located 600 miles to the east of Karabuk and the principal source of transportation is a single-track railroad. "This places the plant under a terrific initial handicap in transportation costs." Furthermore, this disadvantage in cost is increased by the fact that little equipment for efficient processing of the iron ore exists at Divrigi with the result that raw ore containing high quantities of impurities must be shipped 600 miles before simple separation processes can be undertaken. Handling, sorting, and loading equipment at Divrigi is the most primitive type imaginable. This all adds up to a most uneconomical operation throughout the entire iron and steel industry in Turkey. Several American advisers have expressed the idea that iron and steel production in Turkey is characteristic of the

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ambitious effort, on the part of the Turks, to rush into modern industrialism without a proper understanding of what such a system involves in the way of gradual evolutionary development.

A more recent problem faced by the advisers concerns the failure of the Divirigi iron mines to meet their production schedules. It has been estimated that the project is currently running about 2 years behind schedule. Plans call for production of 600,000 tons of iron ore by 1952. Actually, as indicated in a later section of this chapter, production only attained 300,000 tons by that date. Recent American advisers returning to the United States reported that a considerable amount of the equipment at Divirigi is lying idle probably partly due to the inability of Karabuk to process the sulphur-bearing ore. Furthermore, reports are that there is a general power shortage at Divirigi with no indication as to the possible date when this problem will be solved.

Some hope, however, was expressed by various people at the Mutual Security Agency recently when they discussed the proposed new desulphurization plant which is expected to be installed at Karabuk in the near future. Perhaps this new equipment can help to increase the steady flow of iron ore from Divirigi and thereby aid in the fuller utilization of the recently installed equipment at these mines.

**General Description of the Divirigi Iron Mines Project**

This project is designed to develop the Divirigi iron mines to the point where they will be able to produce 600,000 tons of iron ore per year. The project provides for underground equipment and development of "A" and "B" orebodies. Construction of a crushing plant and an aerial tramway at "A" orebody are under construction and should be com-
pleted soon. The aerial tramway is designed to transport iron ore
directly to the railway station in the town of Curek. The project in-
cludes the construction of railroad loading equipment, railroad siding
and stockpile site all located at this railway station. General surface
installations are also in the process of construction. They consist of
laboratory equipment, work shops at the main townsite, housing for all
compressors, housing for the liquid oxygen plant, garages for trucks and
other equipment, housing for mine locomotives, a repair shop at "A" ore-
body, a drill sharpening shop at the same orebody, a dormitory and a
number of social buildings.

The installation of a power plant is called for but there is no
indication at this time as to the possible completion date. The power
plant will consist of three separate 500 kw generators to provide power
for the townsite as well as both "A" and "C" orebodies. Electric power
is needed for the air compressors, trolley locomotives, crushers, drills,
pumps, and for lighting. It is also needed to operate the aerial
tramway.
ECONOMIC APPRAISAL OF THE DIVRIGI IRON MINES PROJECT

The period covered by this analysis is from 1949 through 1952, a period of approximately four years. The method of analysis is the same as in the four previous chapters. The main object is to determine the approximate efficiency of the total expenditures for iron ore production improvement during the first four years of the project which is being sponsored by joint American-Turkish funds. As in the preceding chapters, a ratio will be computed on the basis of total returns or gains for Turkey to total expenditures or costs of the project. Since "investment" data for the Divrigi Iron mines are unavailable, the item of "total expenditures" will be substituted in the ratio. The final result, therefore, will be a ratio of return on expenditures rather than return on investment.

1. Total Expenditures on the Divrigi Iron Mines Project

The figures showing expenditures in this section are not intended to represent actual purchases of materials and equipment as of a certain date. They simply are the estimates which are expected to be spent during the development period covered here. Actual expenditures may vary slightly from these estimates when the project is completed. However, the fact that no new revisions have been made by the Mutual Security Agency in Washington by the end of 1952 indicates the general reliability of these estimates in respect to actual experience during the first four years of the project.

Table 26 shows these estimates from 1949 through 1952. Three sources of expenditures are given with Turkey's contribution in local currency much higher than that of American aid through ECA dollars and that of
Table 26

Estimated Expenditures for the Divrighi Iron Mines Project
In Central Turkey by Source from 1949 through 1952
(In Dollars)

<table>
<thead>
<tr>
<th>American Aid</th>
<th>Other Foreign Currency</th>
<th>Local Currency</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECA Funds</td>
<td>$ 1,000,000</td>
<td>$ 1,600,000</td>
<td>$ 2,400,000</td>
</tr>
</tbody>
</table>

other foreign currency expenditures. This latter source consists mainly of loans negotiated through the European Payments Union with various countries of western Europe for all sorts of machinery and equipment used at Divrigi. It is interesting to note that the American aid contribution was by far the smallest of the three sources; this fact was also noted in the preceding two chapters covering western Lignite and Sariyar hydroelectric power. Perhaps mention should be made at this time of the change which has taken place in these figures shown in Table 26 from those indicated in the original estimates. At the beginning of the project in 1949, the contribution from the United States was intended to be $2,600,000 with no foreign loans. However, the Industry Division of ECA discovered that equipment which at that time could not be obtained in Europe, is now available in increasing quantities on the continent. This fact, therefore, accounts for the withdrawal of $1,600,000 from American aid and the substitution of foreign borrowing by Turkey to offset this reduction in ECA grants.

Table 26 shows a total expenditure for the Divrigi iron mines project from all sources of $5,000,000. On the basis of expenditures, this project is slightly smaller than the western lignite project which was discussed in Chapter VIII. The lignite project, as shown earlier, will require a total expenditure of $6,743,512. Since the roads project, the Zonguldak coal project, and the Sariyar hydroelectric power project all call for expenditures of $66 million, $57 million, and $47 million, respectively, this last project at Divrigi is the smallest of the five major projects from the standpoint of total dollar expenditures.
2. Total Returns or Gains to Turkey from Divriği Iron Mines Project

The only data available upon which to compute returns for the iron mines is a series of cost estimates comparing the 1949 total average cost of ore at Divriği with the same costs estimated for 1952. Table 27 gives the detailed break-down of these costs for each year together with the totals stated both in Turkish lira and in their dollar equivalent. Attention should perhaps be called to the item under "overhead costs" which has been estimated for depreciation. This depreciation item is listed as amortization and indicates a rather sizeable allowance relative to other costs in the table. It appears somewhat surprising that this depreciation allowance for 1952 is only slightly larger than 1949 even though a rather substantial outlay for machinery and equipment was made during this period.

The reduction in unit cost from 1949 to 1952 as shown in Table 27 amounts to $1.24 for every ton of iron ore mined during the latter year. The next step in determining the total net return of the iron ore project, therefore, is to obtain the actual amount of iron ore production for 1952. This figure which represents total iron ore production at Divriği for 1952 is 300,000 tons.\(^5\) Since each of these tons mined in 1952 benefits from the $1.24 unit cost savings, the total net gain or return to Turkey as a result of the Divriği iron ore project would be $372,000.\(^6\)

This estimated net return figure of $372,000, which is based on the

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\(^5\) This figure of 300,000 tons of iron ore production at Divriği for the year 1952 was supplied by the Projects Branch, Facilities & Equipment Division of the Mutual Security Agency in Washington, D.C. in December of 1952.

\(^6\) Determined by multiplying total iron ore production of 300,000 tons times the average total savings estimated to be $1.24 per ton for that year.
Table 27

Estimated Total Average Cost Figures for Iron Ore
At the Divrigi Iron Mines Project in Turkey
For the Years 1949 and 1952 Respectively

<table>
<thead>
<tr>
<th>Costs</th>
<th>1949 (TL per Ton)</th>
<th>Dollar Equivalent</th>
<th>1952 (TL per Ton)</th>
<th>Dollar Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Operating Costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Operating Labor</td>
<td>1.72</td>
<td></td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>(b) Operating Salaries</td>
<td>0.57</td>
<td></td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>(c) Operating Supplies</td>
<td>1.03</td>
<td></td>
<td>1.60</td>
<td></td>
</tr>
<tr>
<td>(d) Auxiliary Services</td>
<td>1.30</td>
<td></td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>(e) Social Services</td>
<td>1.59</td>
<td></td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>(f) Major Repairs, tools &amp; labor insurance</td>
<td>0.67</td>
<td></td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td><strong>Total Operating Cost</strong></td>
<td>6.88</td>
<td>$2.43</td>
<td>4.15</td>
<td>$1.46</td>
</tr>
<tr>
<td><strong>Overhead Costs:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) General expenses</td>
<td>2.13</td>
<td></td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td>(b) Amortization</td>
<td>2.45</td>
<td></td>
<td>2.95</td>
<td></td>
</tr>
<tr>
<td>(c) Interest</td>
<td>0.14</td>
<td></td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>(d) Tax &amp; Sales Expenses</td>
<td>0.40</td>
<td></td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td><strong>Total Overhead Cost</strong></td>
<td>5.12</td>
<td>$1.81</td>
<td>4.35</td>
<td>$1.54</td>
</tr>
<tr>
<td><strong>Total Average Cost TL</strong></td>
<td>12.00</td>
<td>$4.24</td>
<td>8.50</td>
<td>$3.00</td>
</tr>
</tbody>
</table>

year 1952, when expressed as a ratio of total expenditures from all sources ($5,000,000) would amount to approximately 8 per cent. This ratio of 8 per cent may be referred to as the Net Annual Return on Expenditures. It seems especially significant that all projects covered in the last four chapters of this study have shown approximately the same return on expenditures even though the data used originated from different sources and when estimates were used they were determined by various people from a number of different organizations, both Turkish and American. To summarize the results of the past four chapters, the Zonguldak coal project indicated a return of 9 per cent whereas western lignite showed an 8 per cent gain. Sariyar, on the other hand, used a somewhat different base since total investment was used in the ratio in place of expenditures. Nevertheless, the result showed a 9 per cent return. Finally, the Divrigi iron ore project has indicated an 8 per cent annual return.

Significance of 8 Per Cent Net Annual Return on Expenditures

Probably the most revealing aspect of an 8 per cent return at the Divrigi iron mines project is that this annual savings to the Turks will equal the total cost of improvement at Divrigi from all sources in a little over a decade. Furthermore, when the project is completed, this net annual return is very likely to be considerably higher than that calculated at this early date in 1953. By the completion date, the unit cost of the iron ore should be lower but what is more important is the fact that the ore will probably be of much higher quality than that presently produced. Not only will its value be greater to the Turkish economy when this improvement takes place, but its value in international trade will likewise improve.
Limitations of the Foregoing Economic Analysis

Perhaps one of the most serious limitations of the estimated return attributable to the iron mines project at Divrigi is that it fails to consider the additional return which should result from increased exports of iron ore abroad. In all probability, the foreign market for iron ore will increase in proportion to the increase in production and the improvement in quality of the ore from the Divrigi mines. There is a definite market for this iron ore if sufficient quantities are available in the proper quality to meet this foreign demand. Moreover, as pointed out earlier, the processed iron ore at the steel mills in Karabuk will add even more to the market potential of this basic commodity. The increased profits to the Turkish economy which should result from this expansion into foreign markets will add appreciably to the return calculated in the foregoing economic analysis.

Another limitation concerns the reliability of the estimates used throughout the preceding section. The estimates of cost for both 1949 and 1952 were made at the very beginning of the project and therefore are not very recent. In all likelihood, a more recent estimate would produce somewhat different results than those indicated in this chapter. Moreover, the estimate given for total iron ore production in 1952 cannot be considered absolutely accurate. It is simply a close approximation submitted to the Mutual Security Agency late in 1952. Finally, the estimates given for total expenditures may be subject to some revision since they were also submitted at the early part of the project. However, in respect to this last figure regarding expenditures, recent reports from Turkey indicate that these estimates are not far from the actual expenditures at Divrigi through 1952. In spite of the lack of
recently revised statistics in the foregoing economic analysis, the data given are probably close enough to provide a general idea of the results at the Divrigi iron mines project to date.

A final limitation concerns the question of whether the greater quantities of iron ore at lower cost will actually be able to be utilized by the Turkish economy. As pointed out in the earlier part of this chapter, the Karabuk steel mills have not kept pace with the improvements at Divrigi. The net result of this situation may be that added iron ore will be produced but Karabuk will be unable to process this added production. If such is the case, any return calculated in the foregoing analysis will be partially dependent, at least, upon whether or not Karabuk will be able to accommodate the new production of the Divrigi iron mines.

Summary

Iron ore ranks next to coal in the order of importance to the economy of Turkey in its drive toward greater industrialization. This basic commodity also occupies an important place in Turkey's future international trade position since there continues to be a great demand in foreign markets for iron ore, pig iron and ingot steel. Perhaps one of Turkey's major avenues of escape from her growing trade deficit lies in producing and exporting more of these important trade items.

One of the most serious obstacles to the achievement of such an objective, however, is the lack of coordination between the iron mines and the steel mills at Karabuk. Two different government organizations—Eti Bank and Sumer Bank—control what should be one single, integrated industry. Economic decisions have frequently been made, in the past, by
the directors of the steel mills without any consideration of the effects on the iron mines at Divrigi. By the same token, plans at the iron mines have seldom taken into account the full ramification upon the steel mills at Karabuk. In spite of this most serious shortcoming, however, the iron mines have shown rather significant results during the first four years of foreign aid. The likelihood of increasing gains, however, depends pretty largely upon the development of greater cooperation and mutual assistance between what is now rather independent and unrelated industries—the iron mines at Divrigi and the steel mills at Karabuk.
Chapter XI

BALANCE OF PAYMENTS ANALYSIS FOR TURKEY

The importance of Turkey's external economic relations will now be examined as the second major method employed in this study to determine the country's future potentialities in respect to economic development and greater industrialization. The past five chapters have been case studies of the major improvement projects sponsored by American aid. It is hoped that this case study method has helped to establish a somewhat clearer picture of the internal improvements which have been taking place in the country. This present chapter, therefore, is designed to highlight some of the major changes which have been occurring in Turkey's international economic position.

The growing importance of foreign trade to Turkey is best expressed by the President of the Republic of Turkey, Celal Bayar, in his inauguration speech before the Grand National Assembly on November 1, 1952, when he said, "In general there is a continuous increase in our foreign trade. During the past two years, the degree we have reached in this respect, has become the highest of the republican era; by far exceeding the large figures representing the totals of the pre-war years."¹

Turkey's four principal trading countries in the last two decades have been Germany, the United States, Italy and the United Kingdom.

Trade with Germany, a traditional trading partner, has shown unusual growth in the last two years. Turkey's major problem in the international sphere at the present time is the large trade deficit with each of these countries as well as with many other European nations. In spite of the fact that Turkey's leading export items have increased substantially during the past few years; nevertheless, her imports, largely of manufactured goods, have increased far more.

Table 28 shows several of Turkey's important export items and indicates the increase in production during recent times. Cotton and coal, which have both moved into an important position in Turkey's export trade since the war, have shown very substantial gains when compared to prewar production of these items. Chrome ore has also assumed an important place in Turkey's foreign trade with increasing amounts of this commodity going to the United States. The production of copper has shown the most substantial increase compared to pre-war production with a 269 per cent increase. However, as a result of growing scarcity of this commodity for domestic consumption, recent export trade regulations have been imposed.  

Table 29 is submitted as an indication of the types of commodities making up Turkey's total import trade. These cumulative totals of expenditures from 1946 through part of 1952 simply provide a representative sample of the goods bought by Turkey and are not intended to represent her total imports for the period. The paid shipments are those which

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2 "According to revised regulations issued recently by the Ministry of Economy and Commerce of Turkey, exports of .... all goods manufactured from copper and brass are subject to license and exports of copper alloys are prohibited." "International Financial News Survey", International Monetary Fund Vol. IV, No. 29, February 1, 1952, p. 233.
### Table 28
Increase in Production of Various Leading Export Items for Comparative Periods in Turkey

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Comparative Periods</th>
<th>Net Increase (in Metric Tons)</th>
<th>Percentage Increase</th>
<th>Value of Increased Production (millions of Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain (bread &amp; feed)</td>
<td>1951 over pre-war(^a)</td>
<td>3,515,000</td>
<td>48.1%</td>
<td>$ 246.1</td>
</tr>
<tr>
<td>Cotton</td>
<td>1951 over pre-war(^a)</td>
<td>102,000</td>
<td>170.0</td>
<td>81.6</td>
</tr>
<tr>
<td>Coal</td>
<td>1951 over pre-war(^b)</td>
<td>2,580,000</td>
<td>134.4</td>
<td>36.8</td>
</tr>
<tr>
<td>Iron ore</td>
<td>1951 over 1948</td>
<td>83,300</td>
<td>43.4</td>
<td>70.6</td>
</tr>
<tr>
<td>Pig iron</td>
<td>1951 over 1948</td>
<td>80,000</td>
<td>80.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Steel</td>
<td>1951 over 1948</td>
<td>109,000</td>
<td>17.7</td>
<td>2.0</td>
</tr>
<tr>
<td>Chrome ore</td>
<td>1951 over pre-war(^b)</td>
<td>280,000</td>
<td>164.7</td>
<td>12.6</td>
</tr>
<tr>
<td>Copper</td>
<td>1951 over pre-war(^b)</td>
<td>17,580</td>
<td>269.2</td>
<td>13.8</td>
</tr>
</tbody>
</table>

\(^a\) Pre-war period here is the average of 1935-1939.

\(^b\) Pre-war period here is the average of 1937-1938.

Table 29
Paid Shipments by Commodities for Turkey,
Cumulative April 1, 1948 to March 1, 1952

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Millions of Dollars</th>
<th>Total (Millions of $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum and Products</td>
<td>$2.5</td>
<td></td>
</tr>
<tr>
<td>Total Fuels</td>
<td></td>
<td>$2.5</td>
</tr>
<tr>
<td>Copper</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Brass and Bronze</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Total Nonferrous Metals and Products</td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>Iron and Steel Mill Materials</td>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td>Total Iron and Steel Products</td>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td>Medicinal and Pharmaceutical Preparations</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Industrial Chemicals, except Alcohol</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Pesticides</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Other Chemicals &amp; Related Products</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Total Chemicals and Related Products</td>
<td></td>
<td>3.6</td>
</tr>
<tr>
<td>Fabricated Basic Textiles (Other than Cotton)</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Total Fabricated Basic Textiles</td>
<td></td>
<td>3.6</td>
</tr>
<tr>
<td>Construction, Mining, and Conveying Equipment</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td>Machine Tools</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Elect. Apparatus, (except Generators &amp; Motors)</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Generators and Motors</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Engines and Turbines</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Industrial Machinery</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Agricultural Machinery, (except Tractors)</td>
<td>20.2</td>
<td></td>
</tr>
<tr>
<td>Tractors, all Types</td>
<td>17.8</td>
<td></td>
</tr>
<tr>
<td>Total Machinery and Equipment</td>
<td></td>
<td>59.3</td>
</tr>
<tr>
<td>Motor Vehicles, Engines, and Parts</td>
<td>11.5</td>
<td></td>
</tr>
</tbody>
</table>

were financed by ECA-MSA and do not include the items which Turkey purchased independently of foreign aid. Nevertheless, the fact that most of the expenditures in this table were for machinery, both industrial and agricultural, the "pattern" does appear to conform rather closely to Turkey's overall commodity imports.

Balance of Payments for Turkey during Inter-War Period

Complete coverage of the inter-war period insofar as the balance of payments is concerned cannot be given in this study. When Ataturk came to power during the establishment of the Republic in 1923, no data of this nature was available. In 1926, the collection of balance of payments statistics was begun in Turkey but ceased in 1932; it was not resumed until 1946.

"The available studies of Turkey's balance of payments cover the years 1926 through 1932. They were prepared by the Supreme Council of Turkey and have ceased to appear since the council went out of existence in 1933. Each year's study was published by the council in a separate pamphlet with explanations covering the items listed. Various inquiries have shown that copies of those pamphlets are not available in Washington. The League of Nations balance of payments memoranda of 1926-28, 1927-29, 1931-32 and 1933, in which the studies appeared, have, therefore, been used for reference.

"The statements for 1926 and 1927 are accompanied by notes explaining the items included, but there are no similar comments with respect to the statements of later years. It is therefore difficult to know whether or not the same methods were used in preparing the balance of payments statements after 1927, particularly after the establishment of foreign exchange control in 1930 which might have made available more reliable information. Because of this uncertainty, the balance of payments items in this memorandum are in terms of 1926 and 1927 statements; and these statements will be compared with that for 1932, which is the last of the series published, in order to indicate any changes that may have developed in the intervening period."3

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3 International Monetary Fund, Research Department, "Balance of Payments of Turkey", prepared by A. R. Bengur, July 29, 1947, p. 1
Table 30 represents an adaptation of the data provided in the document cited above and is designed to show the major changes taking place in the various items of Turkey's balance of payments from the early part of Atatürk's regime (1926 and 1927) compared to Turkey's international position several years later in her economic development program (1932). Probably the most significant factor noted in this table concerns the trade balance. As indicated earlier in this study, Atatürk's economic reforms did not actually get under way until sometime in 1925 and 1926. The economic development of the country required considerable amounts of imports for materials, machinery, and manufactured goods which were not capable of being produced by Turkey at the outset of the program. The trade deficit in 1926 and 1927, therefore, would appear to be the result of a newly organised economy needing increased quantities of imports but with an inadequate capacity for payment of these goods (through a corresponding rise in exports). As a matter of fact, Table 30 shows an actual "reduction" in exports from 1926 to 1927 which might partially be explained by the increased domestic consumption of all sorts of goods formerly going to the export markets.

Another possible reason for Turkey's significant trade deficit during these two years might be explained as a result of Atatürk's apparent disregard, or at least his lack of emphasis, of international trade. It will be remembered that this was the period of great concern for nationalism and the growing desire, on the part of the Turks, for economic self-sufficiency. This spirit of national independence developed into maturity with the advent of the international business crisis during the early 1930's. It was in 1930, that Atatürk imposed rather rigid exchange
Table 30
Balance of Payments for Turkey, 1926, 1927, and 1932
(millions of lira)

<table>
<thead>
<tr>
<th></th>
<th>1926</th>
<th>1927</th>
<th>1932</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports (f.o.b.)</td>
<td>186.3</td>
<td>158.4</td>
<td>101.3</td>
</tr>
<tr>
<td>Imports (c.i.f.)</td>
<td>-244.7</td>
<td>-224.3</td>
<td>-91.4</td>
</tr>
<tr>
<td>Trade Balance</td>
<td>-58.4</td>
<td>-65.9</td>
<td>9.9</td>
</tr>
<tr>
<td>Transportation</td>
<td>18.5</td>
<td>21.1</td>
<td>7.0</td>
</tr>
<tr>
<td>Foreign travel</td>
<td>1.3</td>
<td>1.3</td>
<td>-3.8</td>
</tr>
<tr>
<td>Investment income</td>
<td>-7.6</td>
<td>-7.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Other services</td>
<td>2.8</td>
<td>4.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Total goods &amp; services</td>
<td>-43.4</td>
<td>-46.7</td>
<td>13.3</td>
</tr>
</tbody>
</table>

Capital movements

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term</td>
<td>9.3</td>
<td>5.3</td>
<td>0.1</td>
</tr>
<tr>
<td>Short term</td>
<td>41.7</td>
<td>35.0</td>
<td></td>
</tr>
<tr>
<td>Total capital movements</td>
<td>51.0</td>
<td>40.3</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Gold Movements

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Errors &amp; Omissions</td>
<td>-7.7</td>
<td>6.4</td>
<td>-11.3</td>
</tr>
<tr>
<td>Totals</td>
<td>43.1</td>
<td>46.7</td>
<td>-13.3</td>
</tr>
</tbody>
</table>

Source: International Monetary Fund, Research Department, Balance of Payments of Turkey, adapted from table prepared by A. R. Bengur. Original source material prepared by League of Nations in their balance of payments memoranda of 1926-28, 1927-29, 1931-32 and 1933.
control on Turkey to prevent further deficits in her balance of payments. The fact that imports in 1932 amounted to only 40 per cent of the total for 1927 seems to reflect the effects of this new government policy.

In other words the substantial drop in exports reflects, to some extent, this growing independence exemplified by the Ataturk regime at this time. It was during this year (1932) that a small export surplus appeared in Turkey's balance of payments perhaps as a result of these rather drastic restrictions placed on imports.

The items covering services, which are shown in Turkey's balance of payments during this period, deserve mention. It seems especially significant, in light of later experience, that Turkey was able to earn considerable credits during 1926 and 1927 by providing shipping services. More recent data, indicated later in this chapter, show exactly the opposite trend with large losses of foreign exchange as a result of the use of foreign shipping by Turkey. This fact, no doubt, stems from the relatively small volume of trade during these earlier years as compared to more recent figures on foreign trade. In other words, even though Turkey suffers today from an inadequate merchant marine, relatively speaking the problem was not nearly so serious in 1926 and 1927 because of the low volume of exports. It is interesting to note that for the year 1932, the substantial reduction in earnings from transportation services by Turkey, corresponds closely to the net reduction in foreign trade that year.

The rather significant volume of investment income shown for 1926 and 1927 deserves special emphasis. This was the period of large foreign investments in Turkey which had been stimulated by the so-called capitulations.
for many years prior to Atatürk's rise to power. These capitulations were removed quickly by Atatürk but the actual purchase, by the Turkish government, of the foreign property was accomplished by a gradual process. The investment income, which was paid out by Turkey in 1926 and 1927 therefore, was reduced completely by 1932. Of course there was, in all probability, some flow of investment income but the small amount paid to foreign investors was apparently offset by that coming to Turkish investors from abroad. Incidentally, the magnitude of Turkish investment in foreign countries has never been substantial.

The large short term capital movements during 1926 and 1927 are of particular interest in this analysis. Short term operations represent only the amount of commercial credit assumed to have been extended by countries exporting to Turkey. Presumably these short term loans were eventually settled by Turkey from her export surplus which began in the early 1930's. The long term capital credits shown for 1926 and 1927 consist chiefly of the "investments of certain existing or recently organised foreign companies." As indicated in the preceding paragraph, these companies ceased to exist after 1930 and this fact is reflected in the long-term capital movement shown for 1932 in the balance of payments table.

Gold movements were not significant during this period even though Turkey did gain some gold in her international dealings in 1932. Perhaps the main reason for this net importation of gold stems from the 10 million TL trade surplus discussed earlier in this section. In other words, this

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4 Ibid., p. 3.
5 Ibid.
gold inflow to some extent, no doubt, served as the means by which some countries settled their international account with Turkey.

Even though no balance of payments data are available after 1932, it is generally known that Turkey's international financial position did not change significantly until 1939. In other words the drastic reduction in imports which began in 1930 achieved for the country a consistent small trade surplus until the beginning of the Second World War. It was at this time that substantial shifts took place in most of the items in Turkey's balance of payments. During the war years, the supply shortages abroad sharply increased Turkey's trade with the countries at war so that the accumulation of gold and foreign exchange assets totalled more than $300 million by 1946. Turkey's export surplus during the war years averaged 76 million Turkish lira each year.6

**Turkish Balance of Payments in 1946 -- Prior to American Aid**

In order to determine the status of Turkey's foreign economic position soon after the end of hostilities of the Second World War, the balance of payments data included in Table 31 are submitted. This table should give a clearer picture of the changes which took place during the war as well as establishing a reference point from which the post-war changes in the balance of payments can be determined. In other words, the effect of the American aid program upon the economy of Turkey can, perhaps, be better understood if Turkey's international position is known and understood prior to the actual grants which were provided under this aid program.

Table 31 indicates the magnitude of Turkey's exports in the early post-war period. It was suggested above that this fact resulted primarily

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Table 31
Balance of Payments for Turkey

1946
(Millions of Turkish Lira)

<table>
<thead>
<tr>
<th>Description</th>
<th>1946</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports (f.o.b.)</td>
<td>439.0</td>
</tr>
<tr>
<td>Imports (c.i.f.)</td>
<td>-207.1</td>
</tr>
<tr>
<td><strong>Trade Balance</strong></td>
<td>231.9</td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
</tr>
<tr>
<td>Foreign travel</td>
<td>13.6</td>
</tr>
<tr>
<td>Investment income</td>
<td>7.2</td>
</tr>
<tr>
<td>Government receipts or payments</td>
<td>1.4</td>
</tr>
<tr>
<td>Donations</td>
<td>5.3</td>
</tr>
<tr>
<td>Donations</td>
<td>7.9</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total goods and services</strong></td>
<td>211.6</td>
</tr>
<tr>
<td>Capital movements</td>
<td></td>
</tr>
<tr>
<td>Long term</td>
<td>32.1</td>
</tr>
<tr>
<td>Short term</td>
<td>31.7</td>
</tr>
<tr>
<td><strong>Total capital movements</strong></td>
<td>63.8</td>
</tr>
<tr>
<td>Gold Movements</td>
<td></td>
</tr>
<tr>
<td>Errors and Omissions</td>
<td>10.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>211.6</td>
</tr>
</tbody>
</table>

from the large demand from abroad which was created by the supply shortages and the need for agricultural commodities and raw materials. Even though there are no actual figures during the war, several writers have expressed the idea that this large figure of Г39 million TL represented, rather well, the magnitude of Turkey's exports during most of World War II. In other words, the war caused Turkey's exports to increase from approximately 100 million lira, estimated for 1939, to more than four times that amount during the war period. It should be emphasized, however, that this was not, by any means, a real increase. Rather serious inflation took place during this period which would tend to modify the effectiveness of this export increase.7

Further significance is noted from Table 31 in the figure representing imports. It is surprising how close this quantity approximates Turkey's imports in 1926 and 1927. Perhaps if it had not been for the war, with its attendant shortage of manufactured goods, this import quantity would have been considerably higher. The amount of imports appears to be especially small when one considers the point that this figure includes a substantial amount of inflation.

Perhaps an explanation should be made of this relatively low figure for imports in 1946. The war period, for Turkey, amounted to a reduction in her rate of economic expansion because of industrial goods shortages throughout the countries formerly supplying Turkey with these necessary goods.

7 Actual inflation during the war is not known because estimates of price change cover the period from 1938 to 1951. A great deal of the inflation took place in the post-war period. Nevertheless, a general price rise did take place all during the war also. "The national wholesale price index has risen fivefold since 1938", but the rise has been the greatest since 1946. (Foreign Service Dispatch, Labor Developments--Turkey, From American Embassy, Ankara, to Dept. of State, Washington, D. C., June 23, 1952 p. 2.)
items. This shortage of foreign capital equipment, therefore, acted somewhat as a deterrent to Turkey's industrial improvement program. As indicated later in this chapter, as soon as these finished materials and manufactured goods again became available throughout the world, Turkey stepped up her imports accordingly. In 1946, therefore, the relative small import figure is largely explained by the limited availability of these desired commodities and because of this restriction, Turkey experienced a very substantial trade balance surplus of 231.9 million TL that year.

In respect to the items in Table 31 which cover the various services, it is interesting to note that the income from transportation amounted to a net outward flow from Turkey. The economy of Turkey, on the other hand, had earned income from transportation during 1926, 1927, and 1932. This change in 1946 apparently resulted from the increased quantities of exports without a corresponding rise in Turkish ships to accommodate this increase. Since it was pointed out above, however, that little actual increase in real goods exports took place when allowance is made for the general price rise, presumably this deficit through transportation services in 1946 could be explained by the failure or inability of Turkey to replace her merchant shipping which had become obsolete and worn out during the war. In other words, an actual reduction in Turkey's merchant marine during the war would explain the need for resorting to foreign shipping after the war in order to move her goods.

The greater travel abroad, by Turkish citizens, probably stems from the improved incomes on the part of some Turks as a result of the prosperous war years. The greatest portion of the "donations" item consists of private remittances to Turkey largely from individuals but
with a small amount listed as institutional remittances. The figure of 1.1 million TL, which was given in the detailed break-down of this donations amount, consisted entirely of an annual compensation payment granted Turkey for loss of Iraq oil fields under the Treaty of Lausanne (1923). This item will be mentioned in greater detail in another section of this chapter.

The capital items deserve special emphasis. First, an explanation of the long term capital item is in order. This figure of 32.1 million TL consists almost entirely of a "loan to Turkey from the United States Office of the Foreign Liquidation Commissioner for the purchase of surplus property." Next, the short-term capital movement should be explained. This figure of 31.7 million Turkish lira represents the net increase in claims on foreign countries under payments and clearing agreements.

It seems strange that the combined capital movements figure should be so small when compared to the "goods and services" total. Moreover, it appears rather odd that both short term and long term capital movements represent a net inflow of capital, in view of the large export surplus. We doubt the large "Errors and Omissions" quantity of -266.2 million TL provides the answer to this apparent discrepancy. In all probability, part of this relatively large figure may be allocated to the capital movements figure which would change this quantity to a sizeable negative figure. Moreover, probably an even greater portion of this errors and emissions figure should be allocated to the trade items.

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8 International Monetary Fund, Balance of Payments Yearbook, 1936-1946, 1947, p. 323.
9 Ibid., p. 324.
It was suggested, for example by the International Monetary Fund that the Turkish imports figure in the 1946 balance of payments is probably undervalued. "Exports according to Turkish data may, on the other hand, be overvalued,"\textsuperscript{10} Therefore, if more accurate data could be obtained for 1946, the trade balance would no doubt be smaller and the capital items would, in turn, be larger but with a negative balance.

In spite of the shortcomings of the data included in Table 31, however, some conclusions can be drawn from the immediate post-war period. It appears that Turkey realized a rather significant export surplus up to the time of the American aid program in 1947. Moreover, Turkey's intense desire to continue her industrialisation as soon as the necessary commodities again became available in the major manufacturing countries apparently remained unabated throughout the war. That is to say, this export surplus presumably did not exist in 1946 simply because Turkey did not wish all sorts of machinery and materials to further her industrial program. There is little question but that the desire for imports by Turkey was very strong when the American aid program got under way. This fact is born out by later data shown in the next section of this chapter which indicate the quick shift to a substantial net import balance for Turkey in 1948.

\textsuperscript{10} Ibid.
This section of the present chapter is concerned entirely with the changes which have taken place in Turkish balance of payments data from 1947 through 1952. It is submitted in the hope that a better basis will be established for predicting Turkey's future economic development both at home and in the realm of international trade. The case study analysis presented in the past five chapters together with the balance of payments data analysed here should provide the proper framework for a rather critical appraisal of Turkey's economic future.

Table 32 contains the changes which have been taking place in Turkey's international accounts. Attention should be called to the somewhat unusual account appearing at the bottom of this table. This section, referred to as "Compensatory Official Financing", covers the main devices which Turkey has employed in helping to settle a portion of her trade deficits since the war. This account contains the bulk of Turkey's foreign aid which includes numerous loans from various types of lending agencies and organisations. Each of the major items of this section will be discussed separately in a later portion of this chapter.

For purposes of this analysis of Turkey's post-war balance of payments, four sub-divisions will be treated separately and in the following order:
Table 32
Balance of Payments for Turkey, 1947 through 1952
(millions of lira)

<table>
<thead>
<tr>
<th></th>
<th>1947</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
<th>1951</th>
<th>1952</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports (f.o.b.)</td>
<td>656.7</td>
<td>551.0</td>
<td>693.9</td>
<td>737.6</td>
<td>879.8</td>
<td>1,016.0</td>
</tr>
<tr>
<td>U. S. Aid Program Imports</td>
<td>-2.8</td>
<td>-202.7</td>
<td>-155.7</td>
<td>-77.6</td>
<td>-20.0b</td>
<td>-202.7</td>
</tr>
<tr>
<td>Other imports (f.o.b.)</td>
<td>634.3</td>
<td>697.8</td>
<td>721.8</td>
<td>711.9</td>
<td>1,013.0b</td>
<td>1,420.0b</td>
</tr>
<tr>
<td>Trade balance</td>
<td>19.6</td>
<td>349.5</td>
<td>183.6</td>
<td>51.9</td>
<td>154.0</td>
<td>385.0</td>
</tr>
<tr>
<td>Transportation</td>
<td>-55.0</td>
<td>67.2</td>
<td>75.5</td>
<td>73.0</td>
<td>106.0b</td>
<td>150.0b</td>
</tr>
<tr>
<td>Foreign travel</td>
<td>-10.5</td>
<td>2.6</td>
<td>8.4</td>
<td>16.8</td>
<td>18.0b</td>
<td>25.0b</td>
</tr>
<tr>
<td>Investment income</td>
<td>-1.8</td>
<td>19.9</td>
<td>36.6</td>
<td>37.3</td>
<td>40.0b</td>
<td>50.0b</td>
</tr>
<tr>
<td>Other services</td>
<td>-13.6</td>
<td>4.6</td>
<td>14.0</td>
<td>9.2</td>
<td>10.0b</td>
<td>12.0b</td>
</tr>
<tr>
<td>Total goods and services</td>
<td>61.6</td>
<td>334.6</td>
<td>318.1</td>
<td>188.7</td>
<td>330.0</td>
<td>622.0</td>
</tr>
<tr>
<td>Private donations</td>
<td>2.1</td>
<td>18.2</td>
<td>9.5</td>
<td>4.1</td>
<td>4.0b</td>
<td>4.0b</td>
</tr>
<tr>
<td>Private capital movements</td>
<td>3.8</td>
<td>0.6</td>
<td>26.2</td>
<td>23.9</td>
<td>26.0b</td>
<td>30.0b</td>
</tr>
<tr>
<td>U. S. Turkish Aid Program</td>
<td>2.8</td>
<td>202.7</td>
<td>155.7</td>
<td>77.6</td>
<td>20.0b</td>
<td>---</td>
</tr>
<tr>
<td>Amortisation, other repayments</td>
<td>31.3</td>
<td>45.8</td>
<td>57.0</td>
<td>47.2</td>
<td>50.0b</td>
<td>50.0b</td>
</tr>
<tr>
<td>Compensation for less of Iraq oil fields</td>
<td>2.5</td>
<td>2.4</td>
<td>---</td>
<td>3.4</td>
<td>3.0b</td>
<td>3.0b</td>
</tr>
<tr>
<td>Gold subscriptions, IMF, IBRD</td>
<td>38.5</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Export-Import bank loan</td>
<td>6.5</td>
<td>31.8</td>
<td>21.4</td>
<td>14.5</td>
<td>14.0b</td>
<td>13.5b</td>
</tr>
<tr>
<td>Total</td>
<td>-106.1</td>
<td>206.7</td>
<td>155.8</td>
<td>76.9</td>
<td>19.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Errors and Omissions</td>
<td>27.0</td>
<td>49.4</td>
<td>35.0</td>
<td>263.5</td>
<td>6.2</td>
<td>182.7</td>
</tr>
<tr>
<td>Surplus or Deficit</td>
<td>140.7</td>
<td>176.5</td>
<td>127.3</td>
<td>375.9</td>
<td>304.8</td>
<td>178.8</td>
</tr>
</tbody>
</table>

COMPENSATORY OFFICIAL FINANCING

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECA Grants</td>
<td>---</td>
<td>---</td>
<td>27.9</td>
<td>40.3</td>
<td>107.2a</td>
<td></td>
</tr>
<tr>
<td>ECA Loans</td>
<td>---</td>
<td>---</td>
<td>56.7</td>
<td>75.7</td>
<td>54.0b</td>
<td>31.9b</td>
</tr>
<tr>
<td>OEEC Drawing Rights</td>
<td>---</td>
<td>---</td>
<td>12.4</td>
<td>130.6</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>ECA 5% counterpart funds</td>
<td>---</td>
<td>---</td>
<td>1.2</td>
<td>8.6</td>
<td>5.0b</td>
<td>7.5b</td>
</tr>
<tr>
<td>Other Loans</td>
<td>21.5</td>
<td>27.6</td>
<td>10.0</td>
<td>5.0</td>
<td>15.0b</td>
<td>21.2b</td>
</tr>
<tr>
<td>Payments and clearing agreements</td>
<td>-102.5</td>
<td>171.0</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Use of IMF resources</td>
<td>14.0</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Other short-term assets (net)</td>
<td>25.1</td>
<td>-43.9</td>
<td>-9.2</td>
<td>120.9</td>
<td>2.0b</td>
<td>53.2b</td>
</tr>
<tr>
<td>Monetary gold</td>
<td>182.6</td>
<td>21.8</td>
<td>22.7</td>
<td>12.2</td>
<td>2.7b</td>
<td>20.2b</td>
</tr>
<tr>
<td>Totals</td>
<td>140.7</td>
<td>176.5</td>
<td>127.3</td>
<td>375.9</td>
<td>304.8</td>
<td>178.8</td>
</tr>
</tbody>
</table>

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b Since IMF balance of payments only appear through 1950, the Mutual Security Agency supplied estimates. These are "working estimates" used by MSA.
c These figures were supplied by the Controller's office of MSA.
Source: Other data from International Monetary Fund, "International Financial Statistics", Vol. V., No. 8, August 1952, p. 159.
1. Current Account—Goods Items

The changes in Turkish exports during the post-war period deserve detailed treatment in this chapter. Probably one of the most remarkable features observed in Table 32 concerns the rather substantial increase in goods exports each year from 1949 through 1952. Moreover, what is more remarkable about this increase is the fact that with inflation more or less curbed by 1950 (See Chapter IV), the substantial improvement beyond that date would seem to reflect little, if any, price rise. This fact would tend to highlight the "real" improvement of the Turkish economy resulting from greater foreign trade. An equally significant feature of these increased exports involves the actual "types" of commodities which make up these totals when compared to the former composition of Turkey's export trade. "Turkey's former leading exports, such as tobacco, dried fruits, and nuts, have recently given way to grain, cotton, oil seeds, and minerals, for which there is a strong foreign demand."11 The last part of the foregoing statement tells an interesting story. Turkey's shift in emphasis from the so-called luxury trade to the more fundamental types of food and raw material items would seem to result in a net long run benefit to the economy. Not only are these latter goods in greater demand abroad, but also they would appear not to be quite so susceptible to the vicissitudes of the business cycle. At least this would seem to be true in respect to the grain items in Turkey's export account. Therefore, the change in the composition of Turkey's exports would appear to be for the better insofar as the overall economy is concerned.

Perhaps special reference should be made to the importance of grain in Turkey's recent export improvements shown in Table 32. During 1952, for example, grain exports amounted to TL 1,466 million and were by far the major export item of Turkey. The major reason for this favorable position which grain has achieved in Turkey's export trade lies in the vastly improved production of these commodities throughout Turkey. Cereal production increased from 7.8 million tons in 1950 to 10.7 million tons in 1951. Actual figures for 1952 production are unavailable but it is expected that cereal production that year would be slightly less than the 1951 total. This resulted from a rather prolonged drought on the Central Anatolian Plateau during the early part of 1952. However, rains which began on April 11 considerably changed the rather dim outlook and it is probable that total grain production throughout the country approached the level achieved during the previous bumper year.

Wheat exports make up the principal grain exports in Turkey. A rather serious problem has resulted in this particular agricultural commodity, however. The price of wheat in Turkey is currently selling at TL 0.30 a kilo. The Turkish government must subsidize the farmer, however, because this price is about 20 per cent too high for export. That is to say, the prevailing competitive world price for wheat is approximately TL 0.20 per kilo at collection centers. The government, therefore, provides the subsidy, largely through ECA-MSA aid grants, so that Turkish wheat may compete with world producers. In spite of this subsidy arrangement, this problem of high domestic wheat prices continues to be very serious for Turkey's future international position.

12 Ibid.
13 Ibid.
Conceivably American aid support will eventually be withdrawn and a more fundamental solution to this problem will have to be found. While it is true that improved mechanisation of agriculture is likely to lower the unit cost so that the price can be brought down in Turkey, that does not solve the problem of the small, self-employed farmer and his dependents who represent about 70 per cent of the agrarian population. These farmers produced on the average approximately 20 bushels of grain per annum before American aid and have not improved their output at this time in early 1953. In other words, they have not benefited from this mechanisation program. Perhaps if better seeds and greater quantities of fertilizer become available to these farmers, their output might eventually reach 30 bushels which would tend to be sufficient at least to remain solvent.\textsuperscript{14}

A rather new development in agricultural production in Turkey should be mentioned which should have important repercussions on the country's future export position. Turkey's increased dependence upon grain as the primary commodity earning foreign exchange for the country would appear to be very vulnerable to weather conditions in light of the brief drought experienced in early 1952. However, a recent innovation is designed to substantially reduce this possibility. This involves the development of the so-called "fertile crescent"—the low, rich plain in the eastern part of Turkey. This expansion has been possible primarily as a result of increased agricultural mechanisation. This geographical shift of grain production, therefore, has provided for Turkey "two" principal growing areas since the Central Anatolian Plateau is still an important grain producing section of Turkey. The net result of this recent development

\textsuperscript{14} Foreign Service Dispatch, \textit{Op. Cit.}, p. 5.
has been the establishment of a greater variety of climate for all grains produced in the country. This, in turn, would seem to reduce the chances of a serious drought affecting the bulk of cereal production since one area would presumably tend to offset the bad effects of a drought appearing in the other section of the country. Moreover, this greater variety of climate and soil would appear to provide a wider variety of grain as well as the possible variation in growing seasons between these two widely separated growing areas.

In addition to grains, other agricultural commodities have assumed an increasing role in Turkey's export trade. Cotton production has shown very significant increases since the advent of American aid. Total production in 1951 was 155,000 tons as compared to 118,000 in 1950. This commodity has moved from a rather minor position in Turkey's international trade to one of her major export items in 1952. Cotton exports in 1937-1938 amounted to a total of 7,900,000 TL and increased to a total of 195,900,000 TL in 1950. This increase in cotton, as a principal export item, amounts to 2,480 per cent over the 1937-1938 base period and shows, by far, the greatest increase of all Turkey's export items.15

Other agricultural commodities are increasing so rapidly that they are beginning to break into Turkey's export market. Sugar beet production increased from 855,000 tons in 1950 to 1,350,000 tons in 1951 and potato production also showed similar gains. Tobacco, on the other hand, has lost some of its former prominence in Turkey's foreign trade. It should be emphasised, however, that this is a "relative" drop in importance.

rather than an absolute reduction in exports. Turkish exports of tobacco totaled 98,500 tons in 1951 which was the highest volume recorded during the post-war period. The previous high was in 1949 when 77,600 tons were exported.

A number of factors have contributed to Turkey's unprecedented increase in agricultural commodities since the war. Perhaps one of the most important factors has been the weather. During the past several years, Turkey has experienced very favorable weather conditions for all of her agriculture. Furthermore, the extensive use of ECA-MSA financed farm machinery, especially tractors, has also contributed greatly to Turkey's record production in most commodities. Finally, the much greater area being brought under cultivation, primarily as a result of this new farm machinery, has been an important contributing factor.

The area under cultivation in Turkey expanded from 1,007,795 acres in 1950 to 1,585,000 acres in 1951. This is an increase of almost 37 percent in one year which is certainly spectacular.

As for Turkey's future possibilities in respect to export trade, the writer shares the optimism of the Turkish Minister of the Economy. This important Turkish official made the following prediction in late 1952. He felt that a further marked expansion in the volume of Turkey's exports would continue in the future. Moreover, he said that exports in 1953 would rise to over 3 million tons and that a large part of the increase would come from such staple commodities as cereals, cotton, oil seeds, and minerals. He placed special emphasis on increased agricultural

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production. Loans to farmers amounted to the equivalent of $326.4 million through August 1952 as compared to $230.7 in 1951. "Over 24,000 tractors are now in use, and mechanized farm machinery imported during the first half of the year totalled $35 million, against $37.5 million for the whole of 1951."18 Turkey is beginning to assume an important role in the world economy. She has recently moved to a position of sixth in the world's largest wheat exporting nations.19

Before leaving this analysis of Turkey's exports, perhaps brief mention should be made of the country's mineral production and its relationship to Turkey's future international trade position. Chapter VII dealt with the possible coal exports derived from the Zonguldak coal project. "United States engineers consider Zonguldak's reserves of 500,000,000 to 1,000,000,000 tons of bituminous as one of the richest deposits of coking coal available to the West."20 Furthermore, production of marketable coal at Zonguldak is expected to exceed 5,000,000 metric tons by the end of 1955. This output will be more than twice annual production in 1948 when ECA began the project. Moreover, exports are expected to rise to about 750,000 tons by the end of 1955.21 These estimates would seem to offer further encouragement in respect to Turkey's future export potentialities. Moreover, as indicated earlier in this study, the increase in iron ore, pig iron, and steel should all contribute, eventually, to the strengthening of Turkey's economic relations throughout the world.

19 Ibid. (A more recent report, however, shows that Turkey surpassed Argentine by the end of 1952 to become the world's fourth largest wheat exporter. New York Times, "Turkey's Economy Faces Hard Trials", April 19, 1953.)
21 Ibid.
When reference is made to Turkey's import items (Table 32), however, there appears to be little basis for the optimism indicated above. It is noted, for example, that a substantial increase in imports took place during 1951 and 1952. The data for 1951 show a 22 per cent increase over 1950. The figures for 1952, in turn, indicate a 26 per cent increase over 1951. Before a conclusion can be reached in respect to the seriousness of this drastic increase in imports, however, a closer inspection of the major import items appears to be necessary. The latest available data in this regard are contained in the following table, Table 33.

One of the most glaring facts revealed by this table is that the total imports, included in the table, increased more than 600 per cent by 1950. If more recent data were available, they would probably show a considerably higher per cent by 1952 since Turkey's substantial machinery import program began in 1950. One note of caution should be injected into this analysis at this point, however, in respect to the various figures included in Table 33. A large portion of the increases in imports of the various items came about as a result of inflation which was quite substantial in Turkey during the war and early post-war period. Nevertheless, even if allowance is made for this factor, the increase in imports would still be large.

One of the most significant increases shown in Table 33 is for machinery. The value of machinery imports rose from 19,000 lira in the base year to a total of 184,900 by 1950. During 1951 and 1952, this particular item experienced a continued increase as a result of much greater agricultural machinery imports, including tractors and also a considerable increase in industrial machinery. Attention should also
Table 33
Selected Imports by Value, 1937-1938 and 1947 through 1950, in Turkey
(thousands of lira, c.i.f.)

<table>
<thead>
<tr>
<th>Commodities</th>
<th>1937 - 1938</th>
<th>1947</th>
<th>1948</th>
<th>1949</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Index</td>
<td>Value</td>
<td>Index</td>
<td>Value</td>
</tr>
<tr>
<td>All imports</td>
<td>132.1</td>
<td>100.0</td>
<td>685.0</td>
<td>518.9</td>
<td>770.1</td>
</tr>
<tr>
<td>Machinery</td>
<td>19.1</td>
<td>100.0</td>
<td>72.3</td>
<td>378.5</td>
<td>136.2</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>23.3</td>
<td>100.0</td>
<td>70.3</td>
<td>301.7</td>
<td>75.0</td>
</tr>
<tr>
<td>Petroleum products</td>
<td>5.8</td>
<td>100.0</td>
<td>29.4</td>
<td>506.9</td>
<td>43.8</td>
</tr>
<tr>
<td>Cotton textiles</td>
<td>17.1</td>
<td>100.0</td>
<td>118.2</td>
<td>691.2</td>
<td>80.0</td>
</tr>
<tr>
<td>Wool and woolen yarn</td>
<td>4.5</td>
<td>100.0</td>
<td>34.2</td>
<td>760.0</td>
<td>44.2</td>
</tr>
<tr>
<td>Timber and products</td>
<td>1.8</td>
<td>100.0</td>
<td>4.7</td>
<td>261.1</td>
<td>21.2</td>
</tr>
<tr>
<td>Vehicles</td>
<td>5.0</td>
<td>100.0</td>
<td>54.5</td>
<td>1,090.0</td>
<td>41.2</td>
</tr>
</tbody>
</table>

* Annual average

be called to the increase in vehicles of all sorts throughout Turkey by 1950. This 880 per cent increase is primarily explained by the new roads which were established by the National Highway Improvement Project discussed in Chapter VI of this study. Perhaps it should be pointed out that the greatly increased agricultural exports indicated above came about largely as a result of these increased farm machinery imports and that the increased quantities of vehicles made possible the movement of the additional farm products to the ports for foreign market consumption.

The unusually large increase in petroleum products which were imported by Turkey is explained by the items discussed in the preceding paragraph. Industrial and agricultural machinery together with industrial and farm vehicles created for Turkey a great shortage of all sorts of petroleum products to operate and maintain this increased equipment. This item is not likely to diminish in the next few years because Turkey's petroleum resources are considered to be very meager and the chances of exploiting them in the near future are considered to be quite remote. Moreover, continued imports of farm machinery and all types of vehicles, which are expected in the next few years, would not seem to offer any real hope for a net reduction in any of these import items just mentioned.

Perhaps some hope for reduction of a few of the imports indicated in Table 33 may be established, however. It would seem that iron and steel imports may eventually be reduced a little as the Karabuk steel mills are able to process greater volumes of the iron ore which is being turned out at the Divrigi iron mines. However, not too much hope should be held for this possibility because of the rather inefficient operation
of the iron and steel industry in Turkey. Moreover, the expected demands for iron and steel by the expanding industries in Turkey would seem to indicate the need for increased, rather than decreased, quantities of iron and steel from abroad. Cotton textiles, on the other hand, would seem to offer the greatest possibilities in respect to eventual reduction in imports. The textile industry is expanding rapidly in Turkey and cotton has become a leading agricultural commodity. It seems reasonable to assume, therefore, that this item will show a rather substantial decline among Turkey's major import items during the next few years. Wool and woolen yarn might be expected to show some decrease in the import balance as a result of expected improvement in sheep raising. A more important factor, though, in this respect might be the greater substitution of cotton textiles for wool. Furthermore, the chemical industry has been experimenting with various kinds of synthetic fibers which would seem to offer some encouragement toward the reduction of Turkey's growing import balance, at least to some extent.

It should be pointed out, though, that most of the items which would seem to indicate a possible reduction in Turkey's total import trade in the next few years, are also the ones which have shown the least amount of expansion in the post-war period. This fact seems to suggest a rather dim outlook regarding a possible trade "balance" for Turkey in the near future. And it is this trade balance which, according to most American advisers to Turkey, is vital to Turkey's continued economic development. In other words, continued disequilibrium in Turkey's balance of trade would seem to point toward serious internal economic consequences for Turkey as soon as American aid is discontinued. This problem will be discussed in greater detail later in this chapter.
Perhaps it might be of interest, at this point, to indicate the attitude of Turkey's Minister of Economy and Commerce in respect to this particular point concerning a possible balance in Turkey's trade. It is obvious that he does not share the opinion of a number of American advisers regarding the continued trade imbalance alluded to in the preceding paragraph. This important government official indicated late in 1952 that Turkey would soon achieve a balance in her foreign trade. In support of this prediction, the Minister cited the increased agricultural exports. He did not, however, dwell at length on the serious import question. In view of recent developments, there is no great likelihood that the majority of Turkish imports will be seriously curtailed in the near future. A balance of trade, therefore, would seem to depend more and more upon the continued increase of all types of commodities for export accompanied by no substantial increase in the various import items. This possibility seems to offer greater hope than that suggested recently by a few Turkish officials; namely, that various reductions in imports should take place soon and that they would be the main contributing factor in the achievement of a balance of trade for Turkey.

As a concluding paragraph to this section on Turkey's current account (goods items portion), mention should be made of the item of "U. S. Aid Program Imports" shown in Table 32. These imports were provided by the so-called Truman Doctrine which established U. S. Aid to Greece and Turkey in 1947.22 This program was designed to provide $100,000,000 for Turkey's economic and military security. $5,000,000 of this amount

22 This aid was provided under U. S. Aid to Greece and Turkey, Public Law 75, 80th United States Congress.
was earmarked for highway improvement. Reference to Table 32 will show an offsetting item in Turkey's capital account entitled, "U. S. Turkish Aid Program."

2. Current Account—Services

When turning to the question of "services" in the Turkish balance of payments shown in Table 32, one obvious fact stands out; the loss of foreign exchange through transportation costs has become increasingly pronounced especially since 1950. This item of transportation costs has been one of the major factors contributing to Turkey's large trade deficits during the post-war period. A recent Turkish official summed up this problem by the following statement. "Turkey's growing deficits are expected to continue partly as a result of the large expenditures to foreign shipping interests. The greatly expanded exports of the country have caused a critical shortage of merchant ships in Turkey and this situation is not likely to be overcome very quickly."\(^{23}\) It seems reasonable to assume, therefore, that as increased exports of agricultural and mineral commodities are affected by the Turkish economy, the item of transportation costs in the balance of payments should increase proportionately and further aggravate the serious problem of a growing deficit in the country's current account.

The foreign travel item in Table 32 has also contributed to the problem. The net loss of foreign exchange by Turkey as a result of her

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\(^{23}\) Alpar, Vahit H. Mr. Alpar is the Financial Counselor to the Turkish Embassy in Washington, D. C. During a conference with this Turkish official in December, 1952, the above statement was made in respect to Turkey's trade problems.
citizens traveling abroad has been repeated each year of the post-war period. This loss has become somewhat more pronounced during 1950, 1951, and 1952. It would seem that this is the place where some constructive measures could be undertaken to help in the solution of the shortage of foreign exchange. For example, Turkey possesses a large amount of natural and historical charm as well as an ideal climate; all of which could serve as an attraction for world tourists. It might be possible, therefore, to exploit this opportunity through international publicity and perhaps even preferential treatment afforded all foreign visitors to the country. By the same token, surely measures could be adopted to discourage Turkish Nationals, especially tourists, from traveling abroad.

Perhaps a final point should be made in regard to this expanding deficit resulting from greater travel abroad by the Turks. Earlier in this study, mention was made of the desire and need, by the Turkish economy, of foreign capital. These private business men are unlikely to invest in Turkish industry until they have noted, at first hand, the rapid economic development which has been going on throughout the country since the advent of American aid. In other words, greater encouragement of foreign business interests to spend some time in Turkey might help to solve the travel "deficit" problem and at the same time create the proper environment for the greater inducement of foreign capital imports in order to create more efficient industrial and agricultural operations.

Investment income is the last of the major items shown in Turkey's current account in Table 32. It is not surprising that this item indicates
a deficit for Turkey. The amount of investment abroad by Turkey is extremely small primarily as a result of the critical shortage of investment capital at home. Moreover, the government, which possesses the vast majority of the country's total investment funds, has elected in the past to use it for the improvement of industry at home. For these reasons, therefore, very little interest and dividend income is currently being earned by Turkish investments, private or government, in foreign countries. In view of this fact, one might expect the loss of income resulting from this item of investment income in Table 32 to be considerably larger than that shown.\textsuperscript{24} It is noted, moreover, that this item increased only slightly since 1949. No doubt the explanation for both the relatively small amount of investment income as well as its relatively slow increase after the war could be summed up as the result of a failure on the part of Turkey to attract foreign capital. This point will be developed further during the next section of this chapter in which Turkey's capital account will be scrutinised.

Perhaps a summary should be made, at this point, in respect to the goods and services (current account) in the Turkish balance of payments (Table 32). It is noted from this table, that Turkey's total deficit in her current account amounted to the rather alarming figure of 622,000,000 TL in 1952. When translated into dollars, this deficit would approximate $200,000,000 during that one year. As indicated in the foregoing analysis, the majority of this deficit resulted from greatly increased

\textsuperscript{24} This results from the obvious fact that without any substantial "offsetting income from Turkish investment abroad, one would expect the investment income item to be considerably higher than under a situation where the item only reflected the "difference" between opposite flows of substantial investment income.
machinery imports, both agricultural and industrial. Furthermore, after analysing the services item in Turkey's current account, it was found that more than 38 per cent of the country's total deficit resulted from transportation, foreign travel, investment income and other services in 1952. Moreover, it does not appear likely that many of these services will be able to be reduced substantially in the near future. Therefore, emphasis must be placed on the goods items if a solution to the problem of trade deficits is to be found in the next few years. As pointed out earlier, however, the likelihood of goods imports being reduced significantly within the next two or three years is rather remote. Turkey's ability to achieve an eventual balance in her trade items, therefore, would appear to rest almost entirely upon increased exports of all sorts of agricultural and industrial goods from the expanding economy. Commenting on this unfavorable trade balance, the President of Turkey said recently, "The foreign trade deficit will cut our foreign purchasing power by affecting the trade balance. The importance lies in whether the payment difficulty will be of a continuous nature or not." He added that "the biggest figure of our imports is formed by machinery, which is the basis of production and transportation. It may be said that these excessive imports constitute advanced payments on our efforts to achieve more, to transport speedily our crops and products and in the future, to increase our foreign purchase power."  

25 Approximately 50 per cent of Turkey's total imports in 1952 consisted of machinery of all types including agricultural as well as industrial (380 million TL), iron and steel (140 million TL), vehicles (125 million TL), and petroleum and its products (100 million TL). The rest of her imports consisted chiefly of raw materials and consumers goods. (Bayar, Op. Cit., p. 20).  
26 Ibid.  
27 Ibid.
If these vastly increased machinery imports, therefore, are able to accomplish the objective for which they were purchased; namely, to increase industrial and agricultural production throughout the country, then there would appear to be a rather excellent "chance" for the achievement of a substantially reduced trade deficit and perhaps even a balance in Turkey's trade during the next few years.

3. Capital Account—Government and Private Movements

Probably one of the most striking features of this section in Turkey's balance of payments is the lack of any substantial changes in the various items, especially after 1948. The only exception to this more or less annual "constancy" of capital movement is found in the item covering the U. S. Turkish Aid Program. As pointed out earlier, the funds under this program were provided by the so-called Truman Doctrine and their purpose was to stem the threat of international communism especially in Greece and Turkey during 1947. Table 32 indicates the rather substantial reductions which appeared in this account annually until the funds ran out during 1951. All other items in this section of the table, however, show little variation from year to year.

The private capital movements deserve special mention. There appears to be a very slight increase in the inflow of capital during the past few years. Nevertheless, the "net" increase in capital flowing to Turkey each year isn't sufficiently adequate to serve as an offsetting feature for the outward flow of investment "income" discussed in the preceding section of this chapter. The net result is, therefore, that Turkey is losing foreign exchange, through investment income payments outside the country, faster than she can gain the equivalent amount of
foreign exchange through new investment funds entering the country. This fact tends to highlight her problem of inadequate supplies of foreign exchange necessary to meet Turkey's needs. Perhaps it should be pointed out here that this "net" flow of capital indicated in Table 32 actually amounts to the total flow of private capital since it was indicated above that very little Turkish capital is invested abroad. With this point in mind, therefore, it seems that this item in Turkey's balance of payments is very low. In other words, 30,000,000 TL in private capital imports during 1952, which would amount to slightly more than $10,000,000, appears to be much smaller than one would expect from an expanding economy like that of Turkey. It is the writer's opinion, shared by a number of officials of the Mutual Security Agency in Washington, that the government's failure to carry out its promises of increased emphasis toward the development of greater private enterprise throughout the country accounts, more than anything else, for this inability of Turkey to attract a substantial amount of private capital from abroad. Furthermore, until the Turkish officials actually begin a concerted effort toward the establishment of a better atmosphere for the encouragement of private initiative and private capital accumulation, economic development through greater industrialisation of the country is likely to slow down appreciably as soon as American aid is withdrawn completely.

Probably the item in this section of Turkey's balance of payments which provides the most revealing story of Turkey's growing predicament in her international economic relations is contained in the item of "amortization and other repayments". It is significant that this item is equal to all of the other items combined in each of the years 1948...
through 1952, if the U. S. Aid figure which was mentioned above is neglected for the moment. In other words, this single item offsets all of the other items which obtain foreign exchange for Turkey in this section of the balance of payments. This means that any real hope for the items in this section to be able, eventually, to assist Turkey in her attempts to offset her trade deficit, without further borrowing, is presumably doomed because of this substantial capital outlay as a result of past and present borrowing. It begins to appear as though Turkey is caught in a rather vicious circle. Her growing trade deficits have necessitated increased borrowing from abroad. And what is most significant about this borrowing is the fact that it consists primarily of short-term loans part of which is used to cover repayment of capital and interest charges on former loans. Consequently, these short-term loans increase Turkey's burden as a result of the continual reduction in the time interval between repayment dates. In other words, she is constantly faced with a problem of having to meet another payment on a short-term loan which is falling due. These frequently occurring obligations have required American aid in the form of repeated grants in order for Turkey to maintain her credit standing throughout the world.

If Turkey could eventually increase her capital account surplus, she would be much more capable of servicing this growing debt. Unfortunately, however, the increased servicing cost (amortisation and repayment) precludes such a surplus in this portion of the capital account. Therefore, the servicing cost of Turkey's expanding foreign debt is pushing the economy still further into debt and it begins to look as
though the country may run into real trouble in the near future. As will be pointed out later, American aid has been relieving the full impact of this burden at least up to the present time. This simply amounts to a postponement of the fundamental problem. The real impact on Turkey is expected when the country can no longer depend upon foreign aid to help her in the servicing of this expanding foreign debt. At that time, providing she has been unable to effect a balance in her current account, in all likelihood she will be forced to "borrow" more and more capital simply to repay the interest on past borrowed money. As a matter of fact, the following analysis will show that this has already been taking place, to some extent. If Turkey ever reaches the point where she cannot find foreign lenders, and this is not at all unlikely, repudiation might be the only alternative.

The item in Turkey's balance of payments (Table 32) covering compensation for loss of Iraq oil fields was mentioned earlier in this chapter. When Turkey was stripped of all her foreign possessions by the Treaty of Lausanne in 1923, an annual compensation was established for Turkey presumably from Iraq as a partial compensation to Turkey for her loss of foreign property invested in certain oil fields in Iraq. No explanation is given for the failure to show this compensation, in the balance of payments, for 1949.

The export-import bank loans shown in Table 32 are further proof of some internal instability in Turkey. Perhaps some slight consolation, however, may be deduced from the fact that these loans have not been increasing. Yet, on the other hand, this probably stems from the refusal by this organisation to extend too much credit to a country which has been suffering from extended unfavorable trade balances. Moreover, as
long as other lending organizations such as ECA-MSA, the European Payments Union, and various foreign banks are willing to extend credit, larger sums than those shown by the export-import bank loans (Table 32) are presumably not needed from this organization.

Summarising the third major division of Turkey's balance of payments, the most significant fact seems to be the relatively large item indicated for amortisations and other repayments. This item will bear careful watching in the future in order to determine the extent of the burden which it bears upon Turkey in her attempt to effect a solution to her increasing deficits in the field of international trade. In view of her increased borrowing in foreign countries, especially during the past two or three years, this burden is expected to bring increasing grief to the people of Turkey.

4. Capital Account--Compensatory Official Financing

This last section in Turkey's balance of payments is most revealing in that it explains the manner in which Turkey has been able to "postpone" her large and expanding deficit problem in her current account. The first item which catches the eye, because of its tremendous increase each year from 1949 through 1952, is that of ECA grants. This item consists of all sorts of payments by the United States in order to assist Turkey in the continued drive toward economic development and greater industrialisation. This source of funds is used to provide part of the subsidy to the wheat farmers so that their wheat can compete in world markets with the lower priced foreign wheat. Moreover, these funds are used to pay Turkey's monthly installments on her deficit from the European Payments Union. Reports in the Mutual Security Agency in
Washington indicate that Turkey is constantly in trouble with this organization in the sense that she has found it increasingly difficult to meet her repayment dates because of the insufficiency of foreign exchange. American aid grants have been especially large during 1951 and 1952 as shown in Table 32 and a considerable portion of these funds were used to assist Turkey in maintaining her membership status with the IMF through prompt repayment of her deficit installments. These ECA-MSA grants have also been used by Turkey to settle private accounts with foreign suppliers of her increasing imports of goods and services.

ECA loans, to be distinguished from the grants or "gifts" discussed in the preceding paragraph, have also served to fill the gap left by Turkey's growing deficits on current account. These loans require repayment, of course, which adds further to Turkey's future debt burden discussed above. Admittedly, these loans are not as large as the aid-grants. Nevertheless, they amount to a substantial drain on Turkey's dwindling foreign exchange when repayment and interest charges come due. This would seem to require rather drastic improvements in the current account during the next few years.

The item covering the OEBC drawing rights represents the forerunner of the new lending organization, the European Payments Union. Both of these financial devices were set up to facilitate trade through the extension of credit to member countries. This item (OEBC drawing rights) in Table 32 reflects the somewhat similar experiences of Turkey with the other lending organizations such as the Export-Import Bank, the European Payments Union, ECA-MSA, and various private lenders. In other words, during the two years in which the financial arrangement, known as the OEBC drawing rights, was in operation Turkey ran a deficit of
1.43 million TL. Presumably some of these loans are still outstanding and therefore contribute to Turkey's growing debt burden.

The ECA five per cent counterpart funds show a net outflow of capital insofar as Turkey is concerned. This is due to the fact that these funds are paid by Turkey to the U. S. for administration expense of the ECA-MSA program operating in the country. Even though the funds are spent within Turkey, by American personnel, nevertheless they show as a debit item in Turkey's balance of payments.

The next item in this section of the Capital Account which should arouse the greatest amount of concern by anyone attempting to analyze Turkey's future, is that shown as "other loans". As noted in Table 32, this item did not become significant until 1951. But as a result of the experience of Turkey during this year as well as in 1952, this item became more pronounced than any other single item in the entire Capital Account. First, the figure of 1.54 million TL for 1951 reflects the extent of Turkey's borrowing during that year from the European Payments Union. Almost half of this total (TL 70 million) consisted of the initial credit balance which was established for Turkey at the beginning of this new lending organisation. The other portion of this total (TL 84 million) amounted to the additional EPU credit which was extended by the organisation under the Turkish quota. This total sum of 1.54 million TL granted during 1951 is the major source of Turkey's repayment difficulties with the Union mentioned above. This large amount of short-term credit necessitated the ECA grants and loans to meet the repayment dates. In other words, Turkey has had considerable trouble meeting these repayment obligations because of the magnitude of this loan since this amount was added to the already tremendous foreign debt.
Perhaps greater significance should be attached to the "other loans" item for 1952. This amount of 212 million TL represents a new source of borrowing by Turkey to finance her continued deficit situation. The main portion of this tremendous loan represents, for the most part, short term dollar credits extended by New York and European banks against which the Turks have had to "pledge" an equivalent amount of their gold reserves as collateral. Failure to repay this loan will mean the loss of the pledged gold with resulting serious "monetary" complications throughout the economy of Turkey. In other words, this could mean rather drastic internal price change resulting from substantial losses in the country's monetary gold reserves. It could conceivably result in a rather critical business recession. It should be pointed out that the major reason for this large loan by Turkey in 1952 was to settle the large deficit incurred with the European Payments Union that same year. This deficit has been estimated by Mutual Security Agency officials to be 119 million TL during 1952. It is becoming increasingly clear, therefore, that Turkey's financial manipulations have reached a rather precarious balance in 1952 and serious question should be raised as to the likelihood of the country's being able to overcome the disastrous consequences of this unhealthy financial situation.

The next significant item in this section of the balance of payments concerns "other short-term assets". The figure for 1952 seems especially significant since it shows the rather large amount of 53,200,000 TL. This figure represents the net change in Turkey's foreign exchange, and surprisingly enough, it shows a net "increase" during this latter year. However, in view of the analysis above, this total would appear to be simply a temporary balance which was undoubtedly short-lived.
The last major item of Turkey's balance of payments deals with monetary gold movements. It is not surprising that Turkey lost gold throughout most of the postwar period. What is most unusual, however, is the magnitude of this loss during 1952. One would expect, after viewing the large deficit in current account this year, that loss of monetary gold would have assumed very substantial proportions. However, it must be recalled that loans were effected as the offsetting device to cover this deficit. Furthermore, to obtain these loans, Turkey pledged the equivalent in gold. For this reason, little gold has actually moved out of Turkey at this writing in early 1953. It should not be assumed, however, that such a development is unlikely in the near future. This eventuality will depend, to a great extent, upon Turkey's substantial improvement in her current account.

Perhaps brief mention should be made of the rather large "errors and omissions" items in 1950 and 1952. No doubt these balancing items stem primarily from insufficient data in both sections of the Capital Account. In other words, many of the "estimates" given for loans, grants, private capital movements, amortisation and other repayments, were simply approximations necessitated by lack of complete records of all these transactions. Furthermore, some of the "errors and omissions" is likely to appear as a result of miscalculation and inadequate accounting in the Current Account.

As a brief summary of this fourth section of Turkey's balance of payments, serious concern has been raised over the excessive expansion in borrowing, by the Turks, in order to cover equally large deficits in the Current Account. These substantial increases in loans have contributed
to Turkey's economic burden by imposing on this underdeveloped country the necessity of not only repaying these loans, out of future export surpluses if any, but also allowing for the expanded interest charge on this growing international debt. Serious question has been raised in respect to Turkey's ability to meet these growing obligations. The pledging of large amounts of her monetary gold in order to obtain short term credits to satisfy the repayment and interest demands of other creditors creates a complicated maze of financial manipulations which certainly does not suggest a healthy economic future for the country.

Summary

"Turkey's newly won position of importance in the world economy seems likely to undergo some severe trials in the coming months despite many external signs of stability." These external "signs" concern Turkey's bright prospects for continued production of agricultural and mineral resources and the expected marketability of these commodities abroad. As indicated in this chapter, there is little doubt but that Turkey shall be able to continue her substantial increases in all kinds of exports. On the other hand, her imports which have been rising more rapidly, are not expected to show any net decrease during the next few years. This results from the necessity of purchasing machinery for replacements and obtaining spare parts for the equipment purchased since the war. Moreover, the increased requirements for all types of petroleum products seem to suggest little opportunity to reduce Turkish imports very quickly.

About the only major hope, during the next few years, for the achievement by Turkey of a surplus in the Current Account involves the goods items. The extensive importation of a great variety of agricultural and industrial machinery since the war should provide the base for a substantial "productivity" drive throughout the entire economy. If such an expanded production is accompanied by a lower rate of increase in Turkish imports, then there seems to be proper justification for considering the economy of Turkey as possessing a rather significant element of stability for the future.

There is a much more fundamental problem, however, revealed by the Capital Account in Turkey's balance of payments. This concerns the method by which Turkey has financed her growing deficits in the Current Account. These deficits have been accompanied by a series of short-term loans from various lending agencies and postponement of the repayment burden has been partially effected until now by ECA-MSA grants and loans as well as by the establishment by Turkey of new loans from other sources. During 1952, a large portion of the country's monetary gold was pledged to foreign bankers for short term loans needed to meet repayment dates of principal sums as well as interest payments.

Failure of Turkey's exports, therefore, to achieve the expected levels during the next two or three years is likely to mean extensive losses of monetary gold. Furthermore, if American aid currently used to meet Turkey's short term obligations is significantly reduced or stopped altogether, very serious consequences would likely result. In view of these latter financial difficulties, therefore, the economy of Turkey seems to have been experiencing short-run disequilibrium of a rather serious nature since about 1949. Turkey's main hope, on the
other hand, of avoiding Fundamental Long-Run Disequilibrium is dependent upon (1) continued American aid in rather substantial amounts, (2) vastly improved production of agricultural commodities and minerals for export, (3) greater emphasis placed on private capital accumulation, both internally and from abroad, and (4) this should all be accompanied by the greater encouragement of private enterprise throughout the Turkish economy in the years to come.
Chapter XII

SUMMARY AND CONCLUSIONS

The economy of Turkey has undergone numerous political, economic, and religious reforms since the inception of the Republic in 1923. Kemal Ataturk, Turkey's first President of this newly formed democracy, served as the guiding force behind the reformation of ideas which has continued until this day. These new ideas have one major objective for Turkey—the rapid industrialization of the economy.

The economic system employed by Turkey has been referred to by the Turks as statism. Actually, this system would more nearly resemble the type known as democratic socialism. Strong political rivalries between the two opposing parties, the Republicans and the Democrats, have recently given rise to a greater respect, on the part of government officials, for the wishes of the voting public. In other words, many of the economic decisions are made by elected officials who are influenced by the effects of these decisions on the political party's chances for continuing in power after the next election.

The extent of private enterprise in Turkey is somewhat restricted as a result of the dominant role played by the government in most industrial enterprises. Nevertheless, private establishments frequently compete with government manufacturing and mining companies throughout Turkey. The Democratic party prior to the 1950 elections, in which it swept to an overwhelming victory over the Republicans, had pledged its
efforts to initiate a national policy for the encouragement of greater
private enterprise throughout the economy. However, little evidence
is available at this time in 1953 to show that this promised policy
has actually been instituted by Turkish officials.

There is a great need for private capital in Turkey if free
enterprise is to be developed in the near future. Until recently
there was no mechanism for accumulating capital with the result that
most industrial expansion could only come from government sources. The
Industrial Development Bank, however, was established in 1950 to offer
loans to private businesses. Similar organizations will be needed in
the future, accompanied by increased encouragement of private capital
investment from abroad, if Turkey is to exploit effectively her economic
potentialities.

Wage levels throughout Turkey today are very low by American
standards. It has been estimated that male workers in Turkey will
average about $1.56 per day and that even if a wife and child are
employed full time, the family's total income would fall short of an
adequate minimum wage level. One encouraging feature of the Turkish
economy, however, is the small degree of inflation which has accompanied
the new industrial development program sponsored by American aid. Price
levels have not shown any significant changes since the beginning of
1950.

The Turkish economy is predominately a rural, agricultural economy.
Approximately 94 per cent of the gainfully employed are engaged in
agriculture. It is largely small-scale production. The average size
of farms in the country would be somewhat less than 10 acres. In spite
of large American grants for agricultural machinery, the average farmer suffers from extremely low productivity resulting largely from primitive farming techniques. In other words, American aid has benefited the relatively few wealthy landowners, for the most part, and the living conditions of the peasants remain about at the level existing prior to American aid.

The concensus of many American advisers is that Turkey has seriously underestimated the importance of the farmer and the role that agriculture must play in the country's economic development. In other words, too much emphasis has been placed on manufacturing and mining improvement at the expense of agriculture. Within the past two years, however, increased attention has been given to agricultural improvement through rising machinery-imports. Even though this equipment does not affect the productivity of the overwhelming majority of the farm population; nevertheless, it has contributed materially to the country's export volume and has therefore strengthened the country's external economic relations.

In agriculture, Turkey possesses the greatest comparative advantage over most European countries. Because of her large rural population, her natural agricultural heritage, the variety of her climate and soil, and the strong foreign demand for her farm produce, Turkey's agriculture has the potentiality to serve as the basis for a strong, modern industrial economy. Turkey's greatest success in achieving rapid industrialization, therefore, would seem to lie in greater concentration on the improvement of agricultural production in order to expand foreign trade in agricultural products which would then become the basis for expanding
industrial imports. Such a development would appear to offer the most direct and efficient route toward the country's major objective of industrial development. Western Europe offers the key to Turkey's practical problem. All kinds of industrial commodities as well as agricultural equipment are available to Turkey in exchange for food. The challenge to Turkey is clear; greater agricultural productivity offers untold advantages in respect to the future economic development of the country.

The American aid program has contributed significantly to the effort put forth by Turkey in the development of industry. Five case studies have been presented as representative of the American contribution in the Turkish industrialization program. Probably one of the most important projects, sponsored by American aid, is the improvement of the national highway system. At the beginning of American aid in 1947, Turkish roads were among the most primitive of the world. During Ataturk's reform movement, little had been done to develop the areas of the country extending inland from the coastal areas. Consequently, attention had been concentrated almost exclusively, insofar as economic development was concerned, on the seacoast which surrounds most of the country. The highway system project, therefore, was designed to promote agricultural and industrial development of the central portion of the country.

An economic appraisal of the roads project in Turkey indicated that the returns to the economy, afforded by lower freight costs, would amount to approximately 43 per cent of the total expenditures for roads from all sources. In other words, the Turkish highway system project
Agriculture is likely to be the largest recipient of the gains to be derived from this improvement. This stems from the fact that it is by far the most important sector of the economy. Improved agriculture should, in turn, produce added benefits for all the industries in Turkey. This would result from the greater international trade in agricultural commodities which improved transportation should facilitate. An efficient transportation system should reduce spoilage of agricultural commodities as well as increase production of farm crops. When greater quantities of these agricultural goods reach the international markets, therefore, the additional foreign exchange will allow other industries to obtain the necessary materials and machinery they need from abroad. Because of these expected gains, the highway program in Turkey is considered by many American advisers to be the most important project of the entire American aid program.

Two additional studies of projects—coals and lignite—have shown returns to the economy of Turkey, through lower unit costs, of 9 and 8 per cent respectively on total expenditures. In other words, the savings from reduced costs will be sufficient in a little more than a decade to equal the total expenditures made on these two improvement projects. Moreover, the improved quality of these forms of solid fuel will add significantly to these conservative quantitative estimates.
The need for these solid fuels has never been more crucial to the economic development of Turkey than at the present time. The increasing demand has created a critical shortage of solid fuels throughout industry, agriculture, and households. Even though temporary relief has been obtained by the use of such substitutes as firewood, charcoal, and animal dung, nevertheless, more efficient fuels are sorely needed if a significant reduction in the rate of economic development is to be avoided by Turkey.

Both of these projects have important implications for international trade. High quality bituminous coal, produced at Zonguldak, is one of the most sought-after commodities in western Europe. It is reputed to be especially suitable for coking purposes. Consequently, the more of this commodity which Turkey can produce for the export trade, the greater the amount of foreign exchange which will be built up for the purchase of industrial and agricultural machinery as well as other goods not produced in Turkey. This achievement involves a greater substitution of lignite, wherever possible, within Turkey in order to release the maximum quantity of bituminous coal for overseas shipment. At the present time, however, the critical coal shortage within Turkey has not allowed adequate quantities of this commodity to be exported with the result that the country has been deprived of much needed foreign exchange to finance her ever-broadening foreign debt.

The fourth case study, hydroelectric power, would seem to offer a partial solution to the problem of insufficient exports of coal. This American aid project has been found to show a 9 per cent return to the economy of Turkey, through lower unit cost of electricity, on total
expenditures for the project. The project is expected, eventually, to produce the majority of all electric energy consumed throughout the major industrial region of Turkey—northwest Anatolia. It is also expected to release greater quantities of coal for export since most of the electricity currently produced in Turkey uses bituminous coal as the source of energy. Moreover, this increased production of electric power should contribute substantially to the industrialization program of the country. Finally, additional contributions are expected, as a result of this project, through flood control and greater irrigation of farm lands throughout central Turkey. Therefore, the hydroelectric power project should benefit agriculture which, as indicated above, has the most important foreign trade possibilities. This power project at Sariyar, therefore, is likely to become one of the most important contributions of the entire American aid program to the main objective of Turkey—the more rapid industrialization of the economy.

The iron ore project, the last of the five case studies, indicates a return to the Turkish economy, as a result of lowered unit cost of this commodity, of about 8 per cent on total expenditures. Iron ore ranks second to coal in the order of importance of minerals in Turkey's drive toward industrial development. This commodity also occupies, along with coal, an important place in Turkey's future international economic position since there continues to be a great demand in foreign markets for iron ore, pig iron and ingot steel. One of Turkey's major avenues of escape, therefore, from a growing trade deficit would seem to be greater production of iron and steel. One of the most serious obstacles to the achievement of such an objective, however, is the lack
of coordination between the iron mines and the steel mills in Turkey. Two different government organizations control what should be one single integrated industry. The likelihood of increasing gains to the economy of Turkey, therefore, depends largely upon the development of greater cooperation and mutual assistance between what is now rather independent and unrelated industries.

The use of the case study method for determining Turkey's future potentialities toward economic development at home and abroad seems to indicate rather encouraging results for Turkey. The roads project, the coal and lignite projects, the hydroelectric power development, and the iron ore project all combine to furnish great hope for Turkey as an expanding, industrial economy. All of these projects are expected not only to improve production and living standards at home but also to contribute considerably to greater agricultural and mineral exports which, in turn, will benefit all of Turkey by providing the necessary foreign exchange to purchase necessary materials and equipment for her continued economic development.

One major discouraging feature, however, has been noted in each of these projects. This involves Turkey's increased foreign debt which came as a result of borrowing to provide sufficient funds to carry on each of these projects and many others throughout Turkey. The aid-contribution on the part of the United States as well as the sums spent by Turkey were insufficient to pay for all of the machinery and materials purchased for development of the economy after the war. In many cases, the extent of foreign borrowed money for each project was greater than either the
contribution by the United States or Turkey. What is more significant, most of these loans are of the short-term variety. This means that the repayment-installments and interest charges fall due at very short intervals.

The balance of payments analysis, which formed the second major method of this study in the attempt to determine Turkey's future development possibilities, revealed more clearly this problem of growing short-term indebtedness. First, however, the balance of payments seemed to show very definite possibilities for Turkey in respect to increased exports of agricultural and mineral resources. Exports have shown very substantial increases since the beginning of the American aid program and every indication seems to point to continued expansion in this section of Turkey's current account. The results of the foregoing project-studies would seem to bolster this prediction of greater exports in the future. Moreover, increased concentration on agriculture and mining, during the past two years, would seem to suggest a high degree of probability for an increasing rate of commodity exports within the next two or three years. On the other hand, the import figures in Turkey's balance of payments suggest no substantial change in the near future. During the past two years, they have been rising at a faster rate than exports. Furthermore, the case studies show that most of the projects are far from completion. For these reasons, little hope may be held for a reduction of imports in the current account in the near future. About the most that can be expected is that the rate of increase for exports will be greater than that for imports. In other words, the large trade deficits which have been revealed in Turkey's balance of payments, are not likely to be completely erased simply by rising exports.
Another problem, reflected in the balance of payments data, appears to be much more formidable. This concerns the method by which Turkey has financed her growing deficits in the current account. A veritable maze of short term loans have been obtained from various lending agencies. The Export-Import bank has loaned funds to cover some of these deficits, the MSA-ECA organization has extended increasing amounts of short-term loans, and private bankers all over the world have supplied short-term capital to meet Turkey's rising foreign debt obligations. Moreover, the MSA-ECA has been supplying greater and greater amounts of aid funds to assist Turkey to meet repayment and interest charges so that Turkey's credit standing will not be impaired.

This increased debt burden has caused another rather serious complication. The rather high interest charges on short-term loans have become so large that Turkey would probably be unable to pay even the interest on her debt if foreign aid and continual, new short-term loans could not be obtained. Recently, the country had to pledge a substantial portion of her monetary gold as collateral for short-term loans from private bankers abroad in order to meet her obligations. There is a possibility that this pledged gold might not be retained by Turkey unless she can continue these numerous short-term postponements through complicated financial arrangements.

Apparently, therefore, Turkish exports must bear the brunt of Turkey's serious financial problems in the next few years. Possibly, a sufficient increase in exports can solve Turkey's deficit problem in both the current and capital accounts and thereby relieve the pressure on compensatory official financing. In other words, if Turkish exports are able to carry the load of continued high imports and heavy debt
obligations, then there would be little cause for alarm. The probable
trend, however, as of mid-1953 appears to be that sufficient exports
cannot be made available by Turkey to cover this double burden resulting
from a high level of imports and large foreign debt obligations.

In the event that increased exports are unable to solve Turkey’s
fundamental problem of deficits in both the current and capital accounts,
perhaps some recommendations could be made to prevent Turkey from
developing a long-run fundamental disequilibrium in her balance of
payments. First, continued substantial grants in the form of American
aid seem vital to Turkey’s economic future. If this aid can continue
several years so that increased exports can gradually supply the
foreign exchange to meet these payments, Turkey’s financial condition
may then be sound enough to carry on alone. Moreover, American loans
will, in all probability, be needed to meet numerous repayment dates
on previously borrowed funds.

The second major recommendation would be even greater concentration
on agricultural productivity, especially among the millions of peasant
farmers. All sorts of programs must be developed to encourage production
by Turkey’s large farm population. Since capital equipment undoubtedly
could not be obtained, and would likely be impractical even if it were
available, a more fundamental approach is necessary to aid most of the
farmers. Such an approach would involve greater technical assistance,
improved farming methods, more fertilizer, and improved seed.

A final recommendation concerns the industrial sector of the
economy. Until more attention is given to private capital accumulation
and the encouragement of private enterprise throughout Turkey, long run
economic development is not likely to maintain its present rate of progress.
When American aid is discontinued, the economy will need a stimulus for increased initiative and improved productivity throughout the entire economic system. A movement toward greater reliance on private enterprise, therefore, would seem to offer the best incentive for people to increase production, expand industry, and engage effectively in international trade. Through these developments, the economy of Turkey should reach its main objective—the attainment of a modern, industrial society.
APPENDIX A
APPENDIX B
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AUTobiography

I, Edwin Scott Overman, was born in Camden, Arkansas, August 26, 1922. I received my secondary school education in the public schools of the city of Pawnee, Oklahoma. My undergraduate training was obtained at Oklahoma Agricultural and Mechanical College, from which I received the degree Bachelor of Science in 1947. From this same institution, I received the degree Master of Science in 1948. While in residence at Oklahoma A. and M. College, I acted as Assistant Instructor in the Department of Economics during the years 1946-1948. In 1948, I received an appointment as Assistant Instructor in The Ohio State University, where I specialized in the Department of Economics. I held this position for one year and have held the rank of Instructor since 1949, while completing the requirements for the degree of Doctor of Philosophy.