



15 Agriculture and economic development in Turkey, 1870–2000

Şevket Pamuk

Introduction

Turkey is a large country which had a large agricultural sector until recently. During the past half century, income per capita in Turkey has been lower than in any of the countries studied in this volume. Turkey's industrialisation and shift of resources from agriculture to the urban sector also started later than the other countries. In the year 2000, 35 per cent of its labour force was still employed in and 13 per cent of its gross domestic product (GDP) was generated in the agricultural sector although both shares have been declining rapidly. For the purposes of this volume, then, one may consider Turkey a 'poor and late' Mediterranean country. Turkey's agriculture has played an important role in the country's economic growth and development since 1870. Yet, a long-term, quantitative study of the role of agriculture in the country's economic development has not been undertaken to date. While estimates are available for the post-1960 period, long-term studies of output and productivity growth in Turkish agriculture are also missing. Equally importantly, these long-term trends have not been studied in a comparative perspective.

In a seminal contribution, Johnson and Mellor (1961) had identified five basic areas where agriculture may contribute to economic development: (a) food for the growing population; (b) foreign exchange earnings through exports; (c) labour for the expanding non-agricultural sectors, especially manufacturing industry; (d) savings and capital for industry; and (e) market for the output of the industrial sector. This chapter will examine the contribution of agriculture to economic development in Turkey by focusing on each of these five areas. For this purpose, I will adopt an explicitly long-term approach and study the increases in output, land and labour productivity, agriculture-non-agriculture linkages and the shift of resources from agriculture. I will then examine the long-term institutional changes and government policies that played a key role in the emergence and survival of small and medium-sized family enterprises. I will interpret the long-term trends in land and labour productivity in a European comparative perspective before the concluding section.





Trends in population and output

The first agricultural census for the area that comprises present-day Turkey was undertaken during the Ottoman era, in 1907–8 (Guran 1997a). Annual agricultural statistics began to be published regularly by the government of modern Turkey in the 1920s (Turkey, State Institute of Statistics 2001 and 2003). It is thus possible to construct long-term series for total agricultural output, agricultural labour force, total land under cultivation from 1925. In this chapter I extend these aggregate series back to 1880 for the area within the present-day borders of Turkey on the basis of crop yields, agricultural tithe assessments and tithe collection series from the available Ottoman data. Even though rough estimates of total population and agricultural labour force for 1870 can be attempted, it is not possible, at the moment, to extend most agricultural output series further back to 1870 because of wars and large population movements during the 1870s.

Table 15.1 and Figure 15.1 summarise long-term trends in Turkish agriculture since 1870. The population of the areas comprising present-day Turkey increased from little more than 11 million in 1870 and 13 million in 1880 to 68 million in 2000, an increase of more than five times. Total agricultural output in constant prices increased about nine times while GDP per capita increased about six times during the same period.

It would be best to examine these 120 years in two sub-periods, before and after 1950. Agricultural output and total population increased at a slow pace from 1880 to 1950, output at a little above 1 per cent and population at less than 1 per cent per year despite the large disruptions caused by both the First and Second World Wars. In both world wars production of cereals and to a lesser extent of other crops declined sharply. Official statistics suggest that cereal output declined by as much as 50 per cent during both world wars but these figures may exaggerate the actual decline because the producers often hid their crops and evaded taxes in response to the coercive food supply policies of the Government (Pamuk 1991). After the Second World War, both agricultural output and total population began to grow at rates above 2 per cent with rates of growth of the former exceeding those of the latter. They have both slowed down since 1980, however, and increases in agricultural output now barely keep up with and even lag behind population growth (Table 15.1 and Figure 15.1). These long-term increases in output have ensured that agriculture could meet the increasing per-capita demand for food. Increases in agricultural output also contributed to the expansion of agricultural exports and accounted for a large share of total exports until the 1980s. As a result, the agricultural sector was able to contribute to the long-term development of the urban sector at a low cost for most of the period under study here.

One important reason for the ability of Turkish agriculture to increase output with relative ease until late in the twentieth century has been the low population densities and availability of land. Expansion of area under





Table 15.1 Basic Indicators for Agriculture in Turkey, 1870–2000

	Index, 1950=100					Annual growth rate			
	1870	1880	1950	2000	1880	1950	2000	1880–1850	1950–2000
Total Population, mill.	11.4	13.0	20.9	67.8	62	100	324	0.68	2.38
Rural Population, mill.		9.6	15.7	23.8	61	100	152	0.71	0.84
Ag'l Labor Force, mill.	4.2	4.7	7.4	7.1	58	100	96	0.65	-0.08
Land in use, mill ha.	7.5	8.4	16.3	26.4	53	100	162	0.95	0.97
Total Ag'l Output					43	100	312	1.21	2.30
Land Productivity					81	100	264	0.30	1.96
Labor Productivity					73	100	389	0.45	2.75
Land/Labor ha/worker		2.0	2.2	3.7	89	100	168	0.17	1.04

Note: Present day boundaries of Turkey are used in all series and calculations.

Sources for Agricultural Output:

my estimates based on backward extrapolation utilizing Ottoman data for 1880–1914 from Guran, 1997a and 1997b, Eldem, 1970 and other sources. State Institute of Statistics, 2003 for 1923–2000.

Agricultural Labor Force:

my estimates utilizing Ottoman population series and other data for 1880–1914. Bulutay, 1995 for 1923–1988. State Institute of Statistics, 2003 since 1988.

Agricultural Land:

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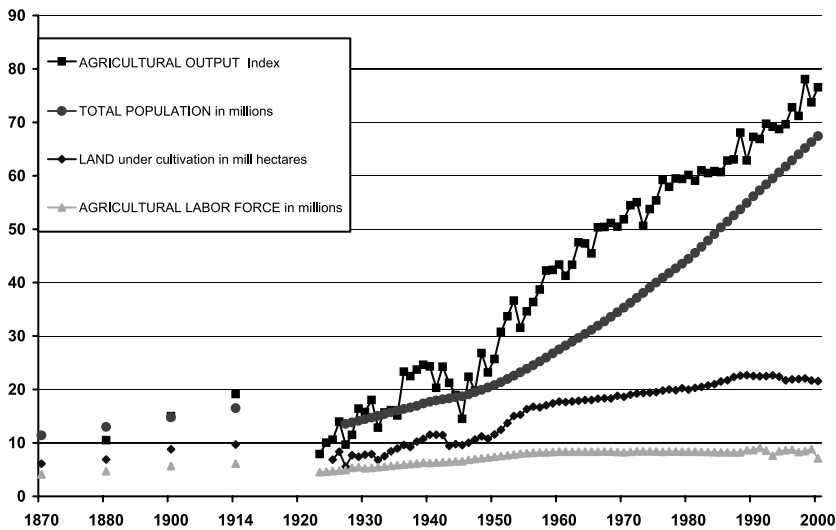
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Figure 15.1 Labour, land and agricultural output in Turkey, 1870–2000.

cultivation was undoubtedly the most important cause of increases in agricultural output until the 1960s. For example, land under cultivation dramatically increased by more than 50 per cent with the arrival of tractors during the decade after the Second World War. With the approaching of the frontier in the 1960s, however, the shift from extensive to intensive agriculture began. In recent years, the land/labour ratio is beginning to increase once again, this time due to a different reason. After staying above 8 million persons for most of the post-Second World War era, the agricultural labour force has been declining rapidly with the shift of men and women to the urban sector.

The long-term trends summarised in Table 15.1 and Figure 15.1 also show substantial increases in labour and land productivity since 1880, especially since 1950. After reviewing the long-term trends employment and sectoral composition of the labour force and GDP below, I will examine land and labour productivity and also offer some estimates for total factor productivity (TFP) growth since 1880.

Structural change

Massive structural changes accompanied the large increases in population and output since 1880 (Kuznets 1966). Unlike most other European countries, however, the shift of labour from agriculture to the urban sector did not really begin in Turkey until after the Second World War. Statistics are not precise in this area but it is clear that share of urban (more than 10,000 inhabitants) in total population increased rather slowly during the nineteenth century and was around 24 per cent on the eve of the First World War. This urban share declined sharply during and after the First World





War and remained below 20 per cent until 1950. On the other side of the same coin, share of agriculture in total employment was about 80 per cent in 1880 and was still close to that level in 1950. The shift to the urban sector was not very rapid even after the Second World War. Numbers of people employed in the agricultural sector continued to increase, albeit gradually, until the 1980s and began to decline in absolute terms only in the 1990s. Share of agriculture in the labour force stood at 35 per cent in the year 2000. Share of agriculture in GDP has declined faster, from about 56 per cent in 1880 to 53 per cent in 1950 to 13 per cent in 2000 (Table 15.2 and Figure 15.2).

Turkey's economy in the twentieth century has been characterised by large and persistent differences in average productivity and incomes between the agricultural and non-agricultural sectors. While we do not have sectoral output data for the nineteenth century, it is likely that the intersectoral differences began to increase after 1880 with the beginnings of industrialisation. Productivity differences between agriculture and the rest of the economy began to decline only after the Second World War. During the inter-war era, the intersectoral productivity differences appear even larger when they are measured in current prices, due to the sharp deterioration of the terms of trade against agriculture (Figure 15.3, based on Turkey, State Institute of Statistics 2001 and 2003). The existing national income accounts for the inter-war period may overstate the differences in average productivity and incomes between the two sectors, but the gap is still large even after some corrections are attempted.

The persistence of the productivity and income differences between agriculture and the rest of the economy and the rather late beginnings of the shift of labour away from agriculture demand an explanation. The answer lies in both agriculture and the urban sector. For one thing, given the low population densities, availability of land and the strength of small and medium sized family farms, the dissolution of peasant agriculture has not been easy or rapid. Government policies also favoured family enterprises since the Ottoman era. The late and weak beginnings of industrialisation during the Ottoman era and the inter-war years has also contributed to this pattern. Weaknesses in the transportation network may have delayed structural change as well. Railroad construction began in the 1860s and gained momentum in the inter-war era but densities of railroads remained low. After the Second World War, the development of a new transportation network based on roads and highways and the development of the automotive industry undoubtedly contributed to the acceleration of rural–urban migration.

With the acceleration of rural to urban migration after the Second World War, GDP per capita in Turkey grew much faster than per-capita productivity in both agriculture and the non-agricultural sector since 1950. This was due to the shift of labour from the lower productivity agriculture to the higher productivity urban sector as was the case in some of the other Mediterranean





Table 15.2 Structural Change and Agriculture in Turkey, 1880–2000

	Index, 1950=100				Annual growth rate			
	1880	1950	2000	1880	1950	2000	1880–1850	1950–2000
Share of Rural Pop. percent	74	75	35					
Share of Ag'l in Labor Force	82	79	35					
Share of Ag'l in GDP, percent	64	53	14					
GDP per cap. 1990 PPP USD	880	1600	6600	55	100	413	0.86	2.87
Ag'l Value Added per capita	750	1040	2835	73	100	227	0.45	1.65
Non-Ag'l Value Added per cap	1500	3640	9640	43	100	240	1.27	1.77
Kuznets' K	2,0(est.)	3.5	3.4					

Note: Present day boundaries of Turkey are used in all series and calculations.

Sources for Agricultural Output:

my estimates based on backward extrapolation utilizing Ottoman data for 1880–1914 from Guran, 1997a and 1997b, Eldem, 1970 and other sources. State Institute of Statistics, 2003 for 1923–2000.

Agricultural Labor Force:

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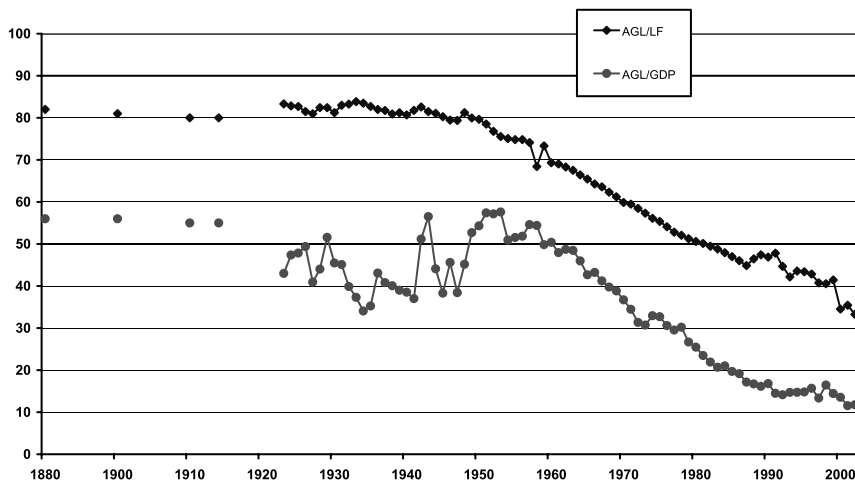


Figure 15.2 Share of agriculture in GDP and the labour force, 1880–2000 (per cent; shares in GDP in current prices).

countries during the same period. In fact, simple calculations utilising the data summarised in Figure 15.3 suggest that roughly one-third or more of the growth in per-capita income since 1950 can be attributed to the shift of labour from the agricultural sector to the urban sector (based on Turkey, State Institute of Statistics 2001 and 2003; also Temin 2002).

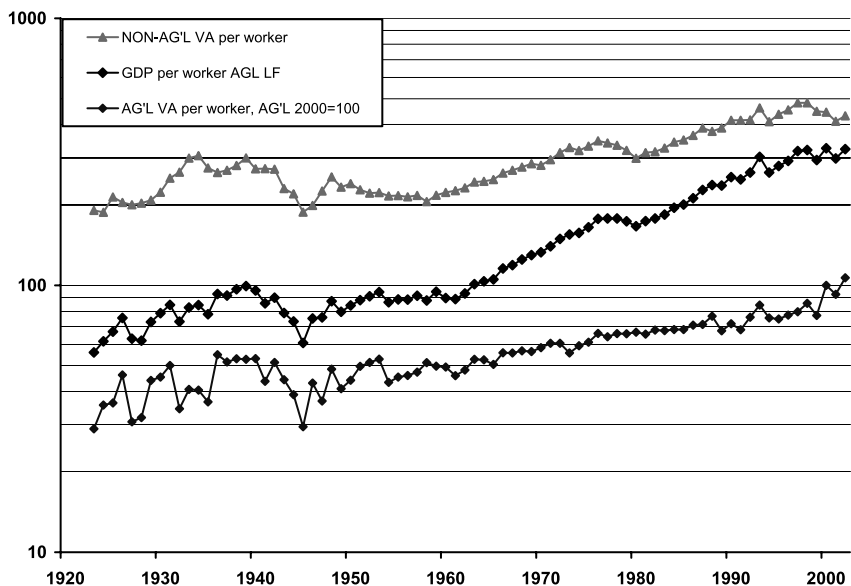


Figure 15.3 Value added per worker in Turkey (index, 2000 = 100).





Productivity increases in agriculture

The growth of agricultural output from 1880 until 1950 at an annual rate slightly above 1 per cent per annum was mostly due to the expansion of inputs, land and labour. There were only modest increases in land and labour productivity (both at less than 0.5 per cent per year) during this period. The First World War and the War of Independence (1914–22) led to a very large decline in the population of Turkey, by more than 20 per cent. Agricultural output declined even more, by as much as 50 per cent during this period but recovered along with population afterwards (Figure 15.1) Agricultural labour force and output did not return to pre-First World War levels until the mid-1930s. This recovery is significant as it indicates that despite the adverse movements in relative prices, agriculture continued to feed the urban sector and support the first wave of industrialisation during the 1930s.

After the Second World War, rate of growth of agricultural output initially rose above 3 per cent per year thanks to the rapid expansion of land under cultivation. Yields and land productivity began to increase only with the use of new inputs, irrigation, agricultural machinery and equipment, fertilisers and high yielding varieties of seeds in the 1960s. The shift in the output mix towards crops with higher value per unit of land has also raised land productivity during the past half century. Labour productivity increased even faster during this period due to rising land productivity and a large increase in land per worker ratio as tractors replaced the traditional oxen and the wooden plough. Output and land productivity growth has slowed down to 2 per cent per annum since 1980 but labour productivity growth has accelerated due to the acceleration of labour movement away from agriculture in recent years (Table 15.3, Figure 15.2, 15.4 and 15.5; source: Ottoman and Turkish agricultural statistics). Labour productivity is likely to rise more rapidly than total output and land productivity in the decades ahead due to the continued shift of labour away from agriculture.

To these estimates of land and labour productivity, one can add estimates of TFP in agriculture since 1880. Given the limitations in the data and their quality, especially for the period before 1925, there are significant problems with the estimation of total productivity. I present in Table 15.4 middle-of-the-road estimates which are consistent with the picture provided earlier. TFP growth in Turkish agriculture was limited until the Second World War, at about 0.3 per cent per year, but has been higher since, at 1.1 per cent per year. This pattern is consistent with trends elsewhere in Europe (Federico 2005: 74–82). As agriculture began to shed labour at a more rapid rate since the 1990s, TFP as well as labour productivity has been growing at a higher pace. This trend is most likely to continue in the decades ahead.

These long-term trends in land, labour and total productivity growth are quite suggestive for understanding the rhythms of technological change in Turkey's agriculture. Even though quantitative studies are not available for the period before 1950, it is clear that there was some limited technological





Table 15.3 Productivity Growth in Agriculture in Turkey, 1880–2000

	Levels				Annual growth rates				
	1880	1950	1980	2000	1880–1950	1950–2000	1950–1980	1980–2000	
	Ag'l Labor Force, mill.	4.3	7.4	8.4	7.1	0.78	-0.08	0.41	-0.81
Land in use, mill ha.	8.4	16.3	28.2	26.4	0.95	0.97	1.84	-0.33	
Land/Labor ha/worker	2.0	2.2	3.4	3.7	0.14	1.05	1.46	0.42	
Total Ag'l Output (index)	43	100	234	312	1.21	2.30	2.87	1.45	
Labor Productivity (index)	73	100	217	389	0.45	2.75	2.62	2.96	
Land Productivity (index)	81	100	162	264	0.30	1.96	1.62	2.47	

Note: Present day boundaries of Turkey are used in all series and calculations.

Sources for Agricultural Output:

my estimates based on backward extrapolation utilizing Ottoman data for 1880–1914 from Guran, 1997a and 1997b, Eldem, 1970 and other sources.
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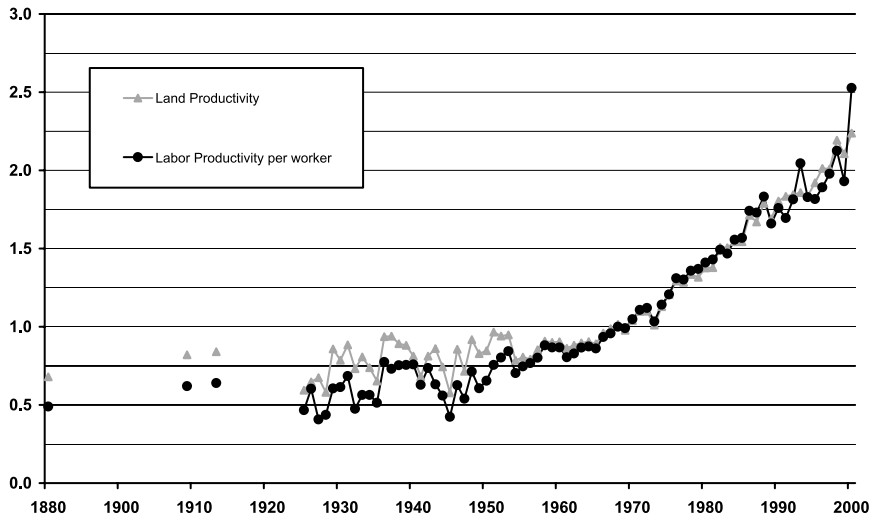
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Figure 15.4 Land and labour productivity in agriculture in Turkey, 1880–2000 (1968 = 1.0).

change in the decades before the First World War, mostly in the more commercialised coastal regions of the country. While evidence on changes in agricultural techniques or implements is scarce, the shift in the crop mix towards cash crops and the introduction of new crops by the immigrating farmers is more readily observable during these Ottoman decades (Quataert 1994: 852–3). During the inter-war period, research and development in

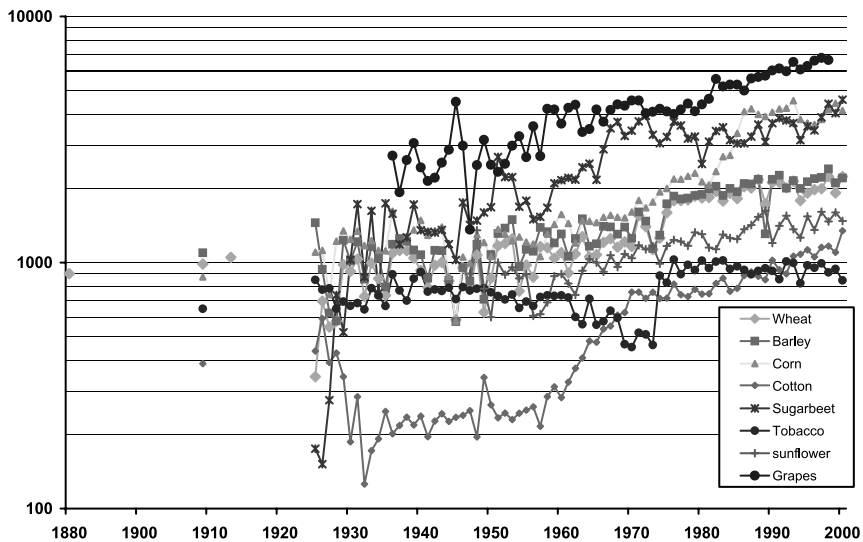


Figure 15.5 Yields for Turkey's leading crops, 1880–2000 (kg per hectare).





Table 15.4 Estimates for Total Factor Productivity Growth in Turkish Agriculture, 1880–2000

	annual growth rates in percent												
	Output Growth	2a	2b	2c	Contribution Growth	3a	3b	3c	Contribution Growth	4a	4b	4c	TFP Growth
1880–1950	1.2	1.0	0.35	0.3	0.8	0.50	0.4	0.4	1.3	0.15	0.2	0.3	$=1-(2c+3c+4c)$
1950–2000	2.3	1.0	0.30	0.3	-0.1	0.40	0.0	0.0	3.2	0.30	1.0	1.1	0.3
1950–1980	3.0	1.8	0.30	0.5	0.4	0.40	0.1	0.1	3.8	0.30	1.1	1.1	1.1
1980–2000	1.2	-0.5	0.30	-0.2	-0.8	0.40	-0.3	-0.3	2.2	0.30	0.7	0.7	1.0

Source: author's calculations based on Table 1.





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agricultural techniques and the development of new crops including the expansion of potato production and the introduction of sugar beets and tea was led by the newly established state farms (Tekeli and Ilkin 1988). The major breakthrough, however, came after the Second World War, with the Marshall Program leading the way. Urbanisation, growing commercialisation and wholesale interaction between the rural and urban areas paved the way for much more rapid technological change. Rapid changes in implements and the expansion of machinery use, initially of tractors followed quickly. In addition to mechanisation and irrigation, the key change in the 1960s and 1970s was the introduction of high yielding varieties of seeds which were first adopted by the larger and medium sized enterprises but spread soon to the rest. The introduction of high-yielding varieties played a key role in maintaining the momentum of productivity and output increases after the land frontier was reached (Çakmak and Zaim 1998).

With the shift to intensive agriculture in the 1960s, it became increasingly more expensive to increase agricultural output, however. In this respect, the large and expensive irrigation project on the Euphrates Valley in south-eastern Anatolia stands apart from all other rural development schemes since the Second World War. It began as a giant dams and hydroelectric project in the 1950s. In later decades the irrigation and agriculture component began to expand with large outlays by the government which continue today albeit at a slower pace. The intention was to expand irrigated agriculture in the region and contribute to its growing commercialisation. Until recently, however, the project has been designed and implemented with a developmentalism from above approach and without sufficient understanding or concern for the needs of the local population. In response to the rise of Kurdish nationalism in recent decades, governments in Ankara have attempted to redefine the project as an integrated development program seeking to improve the social and economic fabric of a large and poor region. Now one of world's largest and most ambitious regional developments projects, it includes large investments in a wide range of development-related sectors such as agriculture, energy, transportation, urban and rural infrastructure. The absence of a shared vision between the planners and the intended beneficiaries, the local Kurdish communities has seriously limited the benefits of the project, however (Çarkoglu and Eder 2005).

Environmental degradation caused both by the overuse of natural resources and the disposal of waste beyond the assimilative capacity of the ecosystem has become a serious problem in Turkey in recent decades. Heavy use of chemicals and pesticides in the agricultural sector, large-scale irrigation projects and the overuse of underground water sources have contributed to the problem in the rural areas. A large body of environmental legislation has emerged in response to these problems but enforcement of this legislation has been erratic at best. The conservation of crop genetic diversity is also becoming a serious concern in recent decades, especially in light of the implementation of market oriented restructuring policies in the agricultural sector (Aksoy





2005). Another serious problem is rapid soil erosion due to improper land use, irrigation, overgrazing or deforestation. A significant amount of top soil is being lost every year. Soil erosion has put downward pressure on land yields in the past and this trend is likely to continue and even intensify in the future.

Agriculture in exports

Recent studies suggest that modern economic growth arrived at south-eastern Europe and the Ottoman Empire during the nineteenth century. It has been estimated that GDP per capita increased at an average pace of 0.7 per cent per annum during 1870–1913 (Pamuk 2006). Most of the increases in per capita output during this period were due to increases in agricultural output and exports. In fact, it would be appropriate to characterise the increases in per capita income in the nineteenth century as agriculture or agricultural export-led growth. Share of exports in GDP rose from about 2–3 per cent in the early decades of the century to 11–12 per cent on the eve of the First World War. Agriculture accounted for more than 90 per cent of total exports with mining products and carpets making up the rest in the decades before the First World War. Tobacco, wheat, barley, raisins, figs, raw silk, raw wool and opium were the leading export commodities. No single commodity dominated and the share of any single crop in total exports rarely exceeded 10 per cent (Pamuk 1987: Chapter 1 and Appendix 1).

The role of agriculture in economic growth and development changed dramatically during the inter-war period. It would be fair to say that agriculture has been supporting industrialisation and more generally the urban sector since the 1930s. Nonetheless, agriculture continued to account for a large share of Turkey's exports until 1980. After recovering in the 1920s, agricultural exports were hurt by the onset of the Great Depression. Their prices declined by an average of more than 50 per cent from 1927 to 1931; the decline in volume was much more limited. This collapse of agricultural prices, incomes and export earnings was a key factor in the shift towards protectionism and industrialisation led by the state sector after 1929.

Agriculture and agricultural exports led Turkey's economic recovery and growth during the decade after the Second World War. Even though government policies began to favour industry in the 1960s, exports of manufactures were not forthcoming. As a result, a diversified basket of agricultural commodities continued to account for most of Turkey's exports in this period as well. Share of agriculture in total exports remained above 80 per cent through the 1960s and above 60 per cent through the 1970s. The agricultural sector thus provided the much-needed foreign exchange in the early and not-so-early stages of Turkey's import substituting industrialisation when the latter sector failed to export. By 1979, however, the share of exports in GDP had dwindled to less than 3 per cent. After the inward oriented policies ended in 1980, exports of manufactures began to increase rapidly. By the year 2000,





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share of exports in GDP has risen to 14 per cent and share of agriculture in total exports had declined to less than 10 per cent (Turkey, State Institute of Statistics 2003).

Institutional change and small peasant production

Turkey's agricultural sector experienced far-reaching institutional changes during the past two centuries. One of the most significant changes in the nineteenth century was the rise in security in rural areas in the aftermath of the Tanzimat reforms of the 1840s. Increased security and growing centralisation encouraged the rural population to leave their settlements in the highlands and other distant areas and settle in the more fertile plains and valleys close to the emerging transportation networks and urban markets. These shifts in settlement patterns undoubtedly contributed to the increases in agricultural productivity and output. Agriculture also benefited from the transport revolution, growing market integration, both domestic and international, and free trade during the nineteenth century. The availability of inexpensive imported textiles even in the more distant parts of the country, for example, tended to support the growing specialisation of the rural population in market oriented agriculture.

Another important institutional change with significant long-term impact was the Land Code of 1858 which gradually led to the formal recognition and entrenchment of private property on agricultural lands. Until that date, most agricultural lands in the Ottoman Empire legally belonged to the state. Peasant families had been considered tenants with usufruct rights on these lands. In 1867 the Ottoman Government also began to allow the sale of agricultural lands to foreigners. This law at first led to the purchase of large amounts land in the agriculturally fertile areas of western Anatolia but most of the European owners were forced to sell these lands back due to the persistence of peasant family farms and the difficulties in securing wage labourers for their farms.

For centuries the only representative of the Government to visit the rural areas had been the tax collector or tax farmer. After 1880, however, the Ottoman Government began to be involved more directly in efforts to modernise the agricultural sector. The Agricultural Bank set up in 1888 began to extend credit to medium sized and larger enterprises, especially in the more commercialised regions of Anatolia. The commercialisation process was supported further by the introduction of new cash crops, seeds and new techniques as well as new schools for the education of agricultural technicians although these efforts also remained limited to the more commercialised regions until the First World War. Fiscal difficulties of the Ottoman government after the default of 1875–6 undoubtedly limited the scale of these efforts (Quataert 1994).

In part because of the availability of land and in part due to government policies, small to medium sized enterprises have dominated Turkish agriculture except in the Kurdish south-east and in a number of fertile valleys





which were opened to cultivation in the nineteenth century such as Adana in the south and Söke in the west. Large-scale ownership prevailed in these latter areas ever since. The Ottoman government supported small peasant production as peasant households were easier to tax than large landowners and because the latter were more likely to pose political problems to the Central Government. The settlement of millions of Muslim immigrants from the Balkans, Crimea and the Caucasus in small plots of land across Anatolia and elsewhere in the empire after the Crimean War and especially after the 1870s also strengthened small peasant agriculture. These settlement policies were undoubtedly facilitated by low population densities and availability of cultivable land (Karpat 1985: 60–85; Keyder 1987: 117–40). Increasing commercialisation and export orientation of Anatolian agriculture in the decades before the First World War was thus carried out mostly by small family farms and small tenant enterprises cultivating large holdings. Farms using year-round wage labour remained a small category. Wage labour in agriculture was employed mostly during the picking season in cotton and some of the other cash crops. Large and medium sized cotton farms in the southern Adana region and in western Turkey attracted large amounts of seasonal labourers, many of them migrants from the poorer eastern regions of the country. In the more commercialised regions of western Anatolia, Adana region and in the eastern Black Sea region, as much as half or even more of the agricultural output was directed towards export markets. Market orientation in the cereal growing central Anatolia increased sharply after the construction of railroads connecting it to the ports of Istanbul and İzmir in the 1890s. In contrast, commercialisation of agriculture in eastern Anatolia remained limited until after the Second World War (Pamuk 1987: Chapter 4; Guran 1998; Quataert 1994).

The long-term trend of increasing market orientation that prevailed until the First World War was reversed during the inter-war period. Along with the rest of the economy, Turkey's agricultural sector turned inward during the inter-war period. Large losses of population during and after the First World War and the departure of the Greek and Armenian rural population who had been more market oriented contributed to this reversal. Per-capita agricultural output and per-capita export levels of the pre-First World War era were attained by the end of the 1920s but the sharp decline in the terms of trade against agriculture hit the more commercialised producers hard. The Government responded to the Great Depression with the strategy of etatism or state-led industrialisation in the urban areas. A similar effort was not extended to the rural areas, however, where four-fifths of the population lived. Price support programs in wheat were initiated in the early 1930s in response to the collapse of prices but the actual purchases remained very limited. As a result, domestic wheat prices closely followed the international prices and did not recover until the Second World War. Railroad building in eastern regions of the country was the largest form of public investment and outlay during the inter-war period. This effort helped integrate some of the





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wheat producers in these regions to the emerging national market (Pamuk 2001). Government efforts to modernise agriculture continued in the inter-war period but their scale again remained limited due to fiscal considerations. Nonetheless, agricultural output continued to rise during the 1930s thanks mostly to the demographic recovery (Pamuk 2001).

With the shift to a multi-party electoral system after the Second World War, however, the large numbers of agricultural producers who made up as much as three-fourths of the electorate obtained significant political influence if not power. The electoral victory of the Democrat Party in 1950 ushered in a new era of institutional changes and government policies that were much more responsive to the demands and preferences of the rural population. The scale of government price support programmes expanded rapidly in the 1950s. Development of the road network, changes in laws, better functioning of the judicial system all contributed to growing market orientation of agriculture in the decades after the Second World War.

Especially the more commercialised agricultural producers have been voting consistently for their pocket book ever since. Since the 1950s this pattern encouraged politicians to use government programmes as an electoral instrument, first for the agricultural producers and later for other groups. With the manipulation of the intersectoral terms of trade in favour of agriculture through government price support programs and subsidies on agricultural inputs, the incorporation of the rural population into the national market thus accelerated. Villages became important markets for textiles, food industries and gradually for consumer durables as well as agricultural machinery and equipment as domestic market oriented industrialisation picked up in the 1960s. These policies also helped the small and medium sized family farms. Large-scale farms using year-round labour remained the exception although more of them emerged in the Kurdish south-east as the tribal leaders registered tribal lands under their own name and, in some areas, began to evict the previous tenants.

The dominance of small and medium sized family enterprises in the rural areas was a legacy of the Ottoman era. After the Second World War, it combined with another Ottoman legacy, state ownership of land, to moderate urban inequalities during decades of rapid urbanisation. Many of the newly arriving immigrants were able to use their savings from rural areas to build low cost residential housing (*gecekondu*) on state lands in the urban areas. They soon acquired ownership of these plots. Inequalities in the urban sector have been rising in the most recent era of globalisation, however, as real wages and employment have lagged behind the increases in GDP. Despite the large and persistent productivity and income differences between agriculture and the rest of the economy, as indicated by Figure 15.3, the strength of small and medium sized land ownership has slowed down the movement of labour to the rest of the economy since the Second World War.

In the most recent era of globalisation since 1980, in contrast, the governments have been gradually and reluctantly dismantling these post-Second





World War programmes and opening up the agricultural sector and the declining numbers of producers more directly to the market forces. Government policies in favour of agriculture have been declining in part due to the declining share of agricultural producers in the electorate and in part due to demands from international agencies such as the International Monetary Fund for fiscal discipline. At the same time, non-agricultural activities including tourism and some manufacturing have been expanding in the rural areas.

Most of the labour force in agriculture are self-employed today in the more than 3 million family farms which include a large share of the poorest people in the country. The persistence of this pattern has not been due to the low productivity of agriculture alone, however. If the urban sector had been able to grow at a more rapid pace, more labour would have left the countryside during the past half century. Equally importantly, governments have offered very limited amounts of schooling to the rural population in the past. Most of the rural labour force today consists of undereducated men and women for whom the urban sector offers limited opportunities. The pace with which the labour force and poverty in the countryside will diminish will depend on the degree to which agriculture will experience institutional changes and attract greater amounts of education and capital in the decades ahead.

Productivity growth since 1880 in comparative perspective

In this section, I will briefly compare land and labour productivity in Turkey with other European countries. Levels of land productivity in Turkey have been growing since 1880 due to rising yields and changing output mix as emphasised earlier. My estimates based on crop yields as summarised in Figure 15.5 and a number of earlier studies indicate that the gap in land productivity between Turkey and western European countries has stayed roughly unchanged during this period at about 1:3, increasing slightly before 1950 and declining slightly since. Levels of land productivity in Turkey have been closer and roughly comparable to those in countries of eastern and south-eastern Europe during most of this period. In fact, land productivity in Turkey has been growing at a higher pace during recent decades in comparison to this latter group of countries (Table 15.5; also Zaim and Çakmak 1998, for other comparisons, see sources cited in Table 15.5 and Lains 2003). It should also be emphasised, however, that these partial productivity measures which are relatively easy to compute can be misleading because the productivity of a factor (e.g. land) depends on the quantity of other inputs (capital and labour) (Federico 2005: 69–74).

The gap in labour productivity between Turkey and countries of western and southern Europe has been larger than the gap in land productivity (Table 15.5). Until the Second World War, labour productivity in Turkey's agriculture was comparable to but lower than other countries in southern Europe (Sampson 1995). This gap has widened substantially during the past half century as the agricultural labour forces have declined rapidly in western and



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Table 15.5 Estimates for Land and Labor Productivity in Turkey in Comparative Perspective, 1880–2000

	<i>U.K.</i>	<i>France</i>	<i>Italy</i>	<i>Spain</i>	<i>Greece</i>	<i>Bulgaria</i>	<i>Romania</i>	<i>Turkey</i>
Land Productivity, U.K. 1890=100								
1890	100	128	146	58				41
1910	98	133	158	54				46
1930	105	161	189	64				44
1950	143	159	192	66				47
1960	172	210	282	98	100	74	74	50
1980	274	348	414	192	180	132	132	77
2000	310	407	464	275	200	88	105	124
Labor Productivity per worker, U.K. 1890= 100								
1890	100	72	45	38				23
1910	102	84	46	33				27
1930	116	102	50	45				27
1950	184	131	52	35				28
1960	259	197	88	60	90	30	26	38
1980	686	617	288	281	200	100	60	62
2000	920	1600	800	680	300	200	140	110

Sources: O'Brien-Prados, 1992, Van Zanden, 1991, Hayami-Ruttan, 1985, Mitchell, 2003, Federico, 2005, and FAOStat for other countries;

Tables 1 and 3 in this study and Hayami-Ruttan, 1985 for Turkey.

southern European countries but Turkish agriculture has been slow in releasing labour to the urban sector. Currently, labour productivity in Turkish agriculture is less than one-fifth of the levels in Italy and Spain. In recent decades, labour productivity in Turkish agriculture appears to be lagging behind countries of eastern and south-eastern Europe as well, with the possible exception of Poland. How soon and how quickly the gap in labour productivity will begin to close will depend, above all, on the rate at which labour will leave agriculture in Turkey.

Conclusion

This chapter adopted a long-term perspective to examine Turkey's agriculture in a European comparative context. Turkey stands out as a 'poor and late' Mediterranean country in this volume. I have identified a number of key features which have persisted through most if not all of the period under study. Agriculture in Turkey was characterised by low population densities and high land/labour ratios until after the Second World War. This initial pattern offered a significant opportunity both to agriculture and overall economic development by making increases in agricultural output less costly at least until the land frontier was reached in the 1960s. As a result, agricultural output has increased faster than population growth without large investments





until recently. Low population densities and high land/labour ratios as well as the late beginnings of industrialisation have also contributed to the delay in structural change. Share of agriculture in the labour force remained above 80 per cent and the shift of resources from agricultural to the urban sector did not gain momentum until after the Second World War. Another identifying feature of Turkey's agricultural sector which is related to the others has been the significant share and role of small and medium sized farms. These family enterprises led the growing commercialisation of agriculture until the First World War and again after the Second World War. They have also been the target of various government support programs in the decades after the Second World War. Many of these programs are now being dismantled, however, as part of the neo-liberal policies of the present era.

To highlight the main conclusions of the chapter, I now return to the five contributions of agriculture to economic development outlined at the beginning:

- 1 Agriculture in Turkey has provided sufficient amounts food for a growing population with rising incomes since 1880. Availability of additional land until after the Second World War made this outcome possible at a relatively low cost.
- 2 Agriculture accounted for most of the country's exports and foreign exchange earnings until the end domestic market oriented industrialisation in 1980. Products of manufacturing industry began to dominate exports and the share of agriculture in exports has declined rapidly since.
- 3 The shift of labour from agriculture to industry and services was slow until the Second World War. Because of the large differences in per-capita productivity between agriculture and non-agriculture, this delayed shift of labour has been responsible for a significant share of the increase in per capita GDP since 1950.
- 4 The most significant contribution of agriculture to savings and capital formation in industry actually occurred during the inter-war period, thanks in large part to the dramatic change of the terms of trade in favour of the urban sector. The contribution of agriculture to capital formation in the urban sector has not been significant in the post-Second World War era because of the various crop purchase programs and subsidies offered to agriculture. These government support programs have been motivated by the political weight of a large rural population.
- 5 The growth of productivity and incomes in agriculture has also ensured that agriculture would contribute to the expansion of demand for the products of the industrial sector. Government manipulation of the inter-sectoral terms of trade in favour of agricultural producers after the Second World War has accelerated the incorporation of the agricultural population into the national market. The decline in the agricultural share of the labour force and GDP means that the relative importance of this demand will continue to decline in the decades ahead.





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Despite the large and persistent differences in average incomes and productivity between the agricultural and non-agricultural sectors, agriculture in Turkey continues to retain about 35 per cent of the labour force today. Most of these men and women are employed as unpaid workers in the more than 3 million small and medium sized family farms. In view of the large intersectoral productivity and income differences between agriculture and the rest of the economy, it is clear that most of the poorest people in the country earn their living in the agricultural sector today. The national educational system has been able to offer only limited amounts of schooling to large segments of the rural population in the past. As a result, a large part of the current agricultural labour force consists of undereducated men and women for whom the urban sector offers limited opportunities.

For the gap in land and labour productivity between Turkey and most of the European Union countries to close and GDP per capita levels in Turkey to converge towards European Union averages in the decades ahead, it is essential that a large part the labour force currently employed in agriculture successfully move to more productive employment in the secondary and tertiary sectors. For this outcome, however, it is critical for the rural as well as the urban population to receive higher levels of education and for agricultural sector to undergo significant institutional changes and attract greater amounts of capital.

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