Ayça Akarçay'ın Atatürk İlkeleri ve İnkilap Tarihi Enstitüsü'nde Eylül 1999 tarihinde savunucağı Yüksek Lisans derecesi için hazırladığı Tezin bir özeti.

Başlık: TÜRKİYE'DE 1930'LARDA TARIMSAL BÜYÜME

Türkiye'nin 1930'lardaki iktisadi gelişmesini inceleyen çalışmalar çoğunlukla sanayileşmeyi ele almıştır. Sanayilşeme ise devlet öncülüğünde yürütülen politikalara maledilmiştir (devletçilik). Fakat, tarımsal sektördeki gelişmeler de bir o kadar önemli olmuştur. Tarımsal üretim, özellikle de hububat üretimi deflasyon ortamına rağmen büyüme göstermiştir. Bu bağlamda, tarımsal büyüme, sanayideki büyümeye zemin oluşturmuştur. Türkiye'de, 1930'larda tarımsal sektöre değinen çalışmalar ise ya küçük köylüyü destekleyen devlet politikalarını savunmuş; ya köylülüğün fakirleşmesini ve farklılaşmasını altını çizmiş, tarımsal büyümeyi dış talebin yükselmesine bağlamış; ya demografik faktörleri ya da olumlu hava koşullarını neden olarak göstermiştir. İhracatın büyümeye neden olamadığı görünmektedir. Buğday destekleme fiyatlarının belirlenmesi, ve buğday alım-satım ve dağıtımları şeklinde gerçekleşen devlet müdahaleciliğinin ise tarımsal sektöre, dahası hububat üreticilerine bir yararı olmadığı ortaya çıkmaktadır. Köylülüğün farklılaşması ise, büyük ölçekte gerçekleşmediği muhtemeldir, bu da Osmanlı'da çoğunluğu oluşturan küçük köylü tipinin 1930'larda da genel köylü tipini temsil ettiği anlamına gelir. Hububat üretimindeki büyümeyi başka türlü açıklamak zor görünmektedir. Nüfus büyümesi, önemli bir faktör olmakla beraber, kendi başına büyümeyi açıklamada yetersizdir, zira tarımsal üretim, kişi başına da artmıştır. Hava koşullarına gelince, 1930'ların yağışlar bağlamında olumlu yıllar olduğuna dair hiçbir kanıt yoktur.
Büyümeyi açıklamak için öne sürülen nedenler yanlış veya yetersiz ise, köylülüğün niteliği ve davranış dinamikleri gibi başka faktörlerin büyümeyi büyük ölçüde etkilediği ortaya çıkmaktadır.

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PREFACE

The 1930s has come to be labelled as the etatist period of Turkey's economic development. Although the choice of a state-led economic development had already been expressed earlier, the Lausanne Treaty did not leave any room for interventionist measures as regards foreign trade which made it impossible for the government to put into action the protectionism necessary for an inward-looking growth strategy. However, in 1929 the treaty expired. Moreover, the international context also changed in 1930: the Great Depression which had started in the 1929 in the developed countries expanded to the rest of the world, leading to an unprecedented decline in prices -agricultural prices-, which in turn led to a general trend of protectionism in the majority of the economies.

The concordance of both internal and external factors allowed the etatist project to be implemented. As such, industrial development had a chance to be systematically pursued. The main factors behind industrial growth have been attributed to protectionism and to the decline of the relative agricultural prices.

However, the increase in agricultural production during the period has been neglected to a great extent. Indeed, the performance of the agricultural sector,

namely that of cereal production, was quite impressive, given that relative prices remained substantially low throughout the decade. Different arguments have been put forth in order to understand the growth.

The aim of the present study is to analyse the factors behind the agricultural growth. First, the Great Depression is assessed as it hit the developed and the developing countries. Second, the Turkish case is examined including the mechanisms through which the economy was hit and how the structure and growth performance of the economy were affected together with the policies implemented. As this second chapter concerns the impact of the depression, increase in cereal production is analysed as regards foreign trade through the official statistics. It has been found that argument of price incentives does not hold, and that even if clearing arrangements were beneficial to industry, the increase in cereal production cannot be explained in terms of increase in external demand with favourable price conditions. For other explanations, the first two chapters have been written on the bases of the secondary literature.

The third and fourth chapters concern the agricultural sector specifically. Chapter Three revises the main factors that have been forth in explaining growth in the agricultural sector. The aim being to quantify as far as possible the impact of each factor,

the main sources used were official statistics as published in Statistical Yearbooks and Agricultural Statistics. It is true that, as mentioned by many researchers, the reliability of official data is questionable, and this study mentions it wherever inconsistency was felt. However, on the whole, given the absence of other quantitative sources official data has been taken for granted. As for data missing in these publications, such as prices and nominal values, estimations in Bulutay et al. have been used as a major source.

Climatic conditions, population, productivity, railroads and state policy are the factors of growth that are assessed. Climatic conditions are analysed on the basis of the level of rainfall as given in Statistical Yearbooks on a monthly basis as measured in stations implemented in certain cities. Annual averages have been calculated, and data for each station has been grouped according to their belonging to agricultural regions as defined in official statistics. Regional data allowed here, and elsewhere, to make comparisons, so as to relativise the aggregate data.

Demographic considerations are based on Shorter's work on the population of the early Republic and on the disaggregate data available in the Statistical Yearbooks. Productivity figures are derived from the data gathered above.

The assessment of the impact of railroads is based on data in Statistical Yearbooks. However, disaggregate data is not present, that is, data for each line is unavailable. Hence, although it seems that production in the areas through which new railroads passed increased, it is impossible to substantiate it.

The impact of state intervention through credit distribution, purchases, sales and distribution is assessed on the basis of data provided in Atasağun. Two main problems can be depicted in these exercises. First, prices. The decline in prices is taken from Bulutay et al. where relative cereal prices remain low, but where we do not have price differentials according the regions. Hence, the given price series are assumed to hold for the whole country. A second point is that of causalities. Factors, such as weather conditions and population do explain to a certain extent the fluctuations in production. However, that productivity, namely labour productivity, increased despite "normal" weather conditions shows that these factors are not enough to explain the growth. As to railroads, our analysis shows that they have been more a an effect of the growing production more than a cause. A similar conclusion has been drawn as to state intervention. These conclusions finally led to the analysis of the peasantry behaviour backed by the demographic considerations. This point is assessed in the final

chapter. It is argued that if none of the factors above explain fully the growth based on the increase of labour productivity, then the specificity of the peasantry must have been an essential factor. The chapter begins with the analysis of small peasantry's behaviour based on Chayanov's theory. As such, discussions on the peasantry structure in Turkey are reassessed. If labour productivity increased despite the absence of any incentive throughout the decade, the peasantry must have kept its autarchic nature in most of the areas and mostly in cereal production. Although data lacks to support directly this thesis, it was possible to relativise other theses emphasising the process of peasant differentiation and that the latter could not have occurred in the totality of the country, and especially in subsistence production.

The work has showed that the main cause behind growth was increase in labour productivity in line with Chayanov's definitions of small peasantry behaviour. Growth was mainly the product of inner rural dynamics, and that the state needed not to intervene so as to increase incentives. Moreover these findings appeared to be consistent with the overall state policy avoiding expansive expenditure.

CHAPTER I

INTRODUCTION

THE GREAT DEPRESSION AND THE WORLD

The aim in this section is not to draw a kind of model which would sum up the different experiences of individual countries and compare them comprehensively as the experiences are obviously too numerous, complex and divergent, especially those of the developing countries. Giving a summary of some of the experiences will simply allow us to situate the case of Turkey in the international context, to give a basis for comparison, and to understand the uniqueness of its experience.

Developed Countries

The aggregate economic performances in the aftermath of the depression are mainly considered under two sub-periods: 1930-1933, and 1933 onwards. The first phase reflects the effects of the depression and the second, the reactions in terms of policy-making. These performances varied according to the differences in the economic structures and the policies adopted.

Before getting to the particular effects of the Great Depression on agriculture in the developed countries, it would be useful to briefly look at the

forces that led to the Great Depression in the previous decade.

The 1920s

Although our analysis is limited to that of the agricultural sector, the developed countries' economic structure and the forces that led to the depression were such that we need to look at the economies as a whole.

The 1920s was a decade characterised by efforts to regain stability and recover from the First World War. The difficulties that were to be overcome in this decade can be summarised in four points.

First, structural mismatches in production. The first argument supporting this point, also the most popular, is a short term analysis stating that industrial production during and after the First World War not only over-expanded but in many ways was also inadequate for peace time demand. As such prices of manufactured goods decreased, followed by a fall in the prices of their inputs, meaning a decline in the price of raw materials[1].

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[1] Note that the war years were typically marked by high inflation in all belligerent countries (disrupted supply vs. increasing demand). This state of inflation persisted until about 1922 (1923 for Germany) in all these countries, and especially in Austria and Germany (losers). Be it the result of the cost of post-war reparations' or the expansion of money supply (Feinstein et al., *The European Economy Between the Wars* (Oxford University Press, 1997), pp. 40-41, this short period of inflation can simply be interpreted as a conjunctural incident mostly affecting the industrial sector, especially for the United States and France, which did not have gold reserve problems and which did not have low investment ratios or debt problems.

On the agriculture side, consumption habits shifted following a similar effect predicted by Engel's Law[2]. This in turn caused an increase in meat and more sophisticated food consumption to the detriment of bread and similar basic products, thus a decrease in the price of wheat mainly.

The second argument supporting the structural mismatches in production derives from the long term analysis of the capitalist mode of production[3], according to which the crisis was the result of an over-accumulation of capital in the United States and in France. Between 1922 and 1930 the volume of investments increased by ninety-four percent in France and by eighty-eight percent in the United States between 1921 and 1929, these figures being substantially high compared to those in the previous decades[4]. Hence the industrial production of investment goods increased faster than that of consumption goods. Moreover as wages increases slowed, demand was unable to follow the given supply. If the increasing capital productivity was not followed by an increase in the demand of industrial/manufactured goods, that is, by a parallel increase in labour productivity

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[2] Engel has depicted the trend of consumption patterns to evolve according to the level of income. As such, as the level of income increases, the share of the consumption of "subsistence" goods, such as bread, decreases.

[3] Boyer, Robert and J. Mistral, *Accumulation, inflation, crises* (Presse Universitaire de France, 1983).

[4] Ibid., p. 203.

through wage increase, the crisis would only worsen. This is the reason behind the workers' upheavals in the period. Hence, supply had to adjust by decreasing along with prices. The over-accumulation of capital, meaning low rates of profit, caused the crisis and it is only with the crisis that profits decreased. This analysis of capital accumulation leading to the crisis is said to have been the outcome of the specific mode of accumulation which had started with the industrialisation era in the nineteenth century and which only could be regulated after the Second World War when the crisis was finally regulated through a shift in the mode of accumulation based on the stimulation of the production sector through demand-side policies, that is, higher wages and lower unemployment[5].

The second difficulty to be overcome in the 1920s, following the First World War on the purely agricultural production side was that suppliers in the 1920s had become relatively more numerous than prior to the war. The problem of agricultural oversupply due to the shift

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[5] The analysis of the crisis in a long-run perspective has been subject to a great deal research and theories since the nineteenth century, starting with the classical economist Ricardo. Many other economists followed, such as Juglar, Kondratieff, Kuznets, Abromowitz, Schumpeter, Rostow, Mandel, Maddison, and Boyer. The interpretation of the 1930 crisis among these long-term analyses differs (for those developed after the event) and we will not enter into the debate here except to note that they mainly concern the dynamics of the developed countries. We shall only consider some of the events characterising the 1930s and the consequent price and quantity fluctuations as our interest is limited with the explanation of the repercussions of these developments in the developed area on the less developed countries, namely Turkey.

in consumption patterns and in the use of raw materials due to the industrial overproduction has already been mentioned. The oversupply in the primary sector was all the more aggravated by the expansion of agricultural production by countries outside of Europe. These new suppliers produced grains and other food crops at lower cost[6].

The two most affected crops were wheat and sugar. The main competitors in wheat production were the United States, Canada, Australia and Argentina and in sugar production, Cuba and Java[7]. This oversupply was all the more rapid during the war when supply disruption in the belligerent countries created a new market with high prices for the countries outside the European continent.

The expansion of acreage by the overseas producers was not balanced by a reduction in Europe but the acreage here did not increase either (in which case the situation would have been much worse). However, although European countries did not reduce their acreage they did opt for protectionist policies. Feinstein et al write,

> The initial post-war tariff barriers were erected against imported wheat in the mid-1920s, easily pre-dating the precipitate fall in 1930. These nationalistic policies not only failed to restore prosperity; in the long run they also precluded the gains in productivity and income which could have been achieved by increased regional specialization and a higher

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[6] Feinstein et al., pp. 71-72.

[7] Ibid., graph 1, p.73.

> level of intra-European trade. Furthermore, by artificially raising the domestic prices for agricultural products, the policies helped to restrict consumption and so exacerbated the fundamental problems.[8]

The price of wheat at the international level decreased[9] from 1920 to 1931, with the exception of 1923 and 1924, when the increase was due to bad harvest in one or more of the new producer countries. However, the prices of industrial raw materials such as cotton, rubber, and tin were more a consequence of the decline in industrial production, with the exception of sugar.

More seriously affected by the decline in the prices of agricultural products at the end of the decade were countries having a high ratio of wheat and sugar exports along with high rates of openness (eastern and central Europe). Countries with more diversified exports and smaller degrees of openness were less affected (Italy, Spain, Portugal, Greece). Countries where food consumption habits shifted to meat and dairy products were also less affected (Denmark, the Netherlands). Importers of foodstuffs, as in the case of the United Kingdom, were gainers. The decline of the revenues of exporting countries also caused a decline in their manufactured imports, which in turn reduced the export

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[8] Ibid., p. 74.

[9] Ibid., fig 2, p.73.

revenues of manufacture-exporting countries such as the United Kingdom.

This decrease in agricultural prices aggravated the demand crisis/oversupply problem as the terms of trade deteriorated to the disadvantage of agriculture, creating an adverse price-scissors effect[10] whereby farmers' revenue (that is, demand) decreased relatively to their expenditure, both the prices of inputs and final goods having decreased less than those of agricultural goods.

The third problem to be overcome on the aftermath of the War was that of debt. Germany, Austria and other central and East European countries had been borrowing heavily, especially from the United States, the country which had the most excess gold reserves in the period. However the situation was not tenable and the United States ceased to lend at the end of the 1920s for a number of reasons:

> Internally, the *tightening of monetary policy by the Federal Reserve* … raised interest rates sharply, thus weakening the incentive to lend abroad. With *the stock exchange indices soaring upwards through 1927 and 1928* there was further strong encouragement to keep funds at home in the hope of more substantial gains from speculation on Wall Street. On the external side there was sharply *growing alarm about the rising of Germany's foreign liabilities, and her ability to continue to meet the obligations these imposed.*[11]

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[10] Ibid., p. 73.

[11] Ibid., p.97.

While this debt problem and the quasi-cessation of loans from the United States to these countries were not the only reasons for the depression in these countries, it is important to note that these countries were perhaps in a more difficult situation compared to those of the debtor countries, and that the internal over-supply problems and long-term over-investment rates were lower in these countries.

The problem of indebtedness was all the more grave that a country's means of repayment, that is, foreign exchange revenues, were limited to the export of agricultural products, as in the case of most eastern and central European countries and other developing countries such as those in Latin American. With the sharp decline in international agricultural prices these countries saw their debt burdens increase and were obliged to opt for moratoria[12].

Thus, more then a direct cause of the depression, heavy indebtedness in the 1920s (sometimes added to the pre-war debts) was an important factor of aggravation in numerous countries, probably much more than for the creditors, despite the moratoria.

The fourth issue that needed to be settled in the 1920s concerned the reconstruction of the international monetary regime. Previous to the war the gold standard

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[12] A state declares moratorium when it faces a debt burden that it can no longer afford to pay back, meaning it goes "bankrupt".

had been the rule. As Temin notes;

> The gold standard was characterised by [1] the free flow of gold between individuals and countries, [2] the maintenance of fixed values of national currencies in terms of gold and therefore each other, and [3] the absence of an international co-ordinating organization. Together these arrangements implied that [4] there was an asymmetry between countries experiencing balance of payments deficits and surpluses. There was a penalty for running out of gold or foreign reserves (the inability to maintain the fixed value of the currency), but no penalty -aside from foregone interest and, possibly inflation- for accumulating gold. In addition [5] the adjustment mechanism for a deficit country was deflation rather than devaluation, that is, a change in domestic prices instead of a change in the exchange rate.[13]

Although the purely monetary and macroeconomic aspects of the matter are beyond the scope of this study, the points above are nevertheless of crucial importance in understanding the different monetary and exchange rate policies each country adopted (most importantly in developing countries as we shall see in the following section), as according to the monetary and exchange regime adopted, the impact on the export sector and/or the domestic-oriented production and more generally performances differed, thus the strategies in overcoming the crisis differed eventually leading to structural shifts. Obviously all this affected agriculture.

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[13] Peter Temin, *Lessons from the Great Depression*, 5th ed (Cambridge, Massachussetes, London, England: MIT Press, 1996), p. 8.

Turning back to the gold standard, in the 1920s the return to the regime enjoyed a large consensus despite the changes: Great Britain no longer retained hegemony, Germany was no longer an exporter of gold but an importer, France and the United States had excess/excessive gold reserves. Hence, the United States, France and the United Kingdom were the main creditors, while Germany and Austria were the main debtors. Finally the gold standard regime was reconstituted by 1925 or 1926. Although outflow from creditors and/or inflow from debtors could have compensated for the asymmetry, "the gold standard imposed no such discipline. In fact it removed revaluation from the policy arsenal after the immediate post-war reconstruction"[14]. This point can easily be deducted from the fifth characteristic of the gold-standard regime given by the same author as cited above.

1930-1933

At the end of the 1920s the advanced capitalist countries were all unstable, although the nature of their particular instabilities differed. Nevertheless they were tied through trade, capital flows and the gold standard. The end of the 1920s were thus marked by oversupply in

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[14] Ibid., pp. 21-22.

both the agricultural and industrial sectors, unemployment, financial instability, and the contraction of trade.

The depression can be divided into two phases: from mid-1929 to mid-1931 and from mid-1931 to mid-1933. However, the decline of industrial production started to decline earlier in 1928 (1928 for Germany and 1929 in the United States), as a result of the long-term trends explained above and also because of the contractionary policies, specifically credit problems in Germany and increasing speculation in the United States.

Which were the events that caused the depression? Temin gives four: "The stock-market crash in New York, the Smoot-Hawley tariff of 1930, the so-called first banking crisis of Friedman and Schwartz, and the world-wide collapse of the commodity prices"[15]. Temin further presents evidence which shows that the first three could not have been the only factors that caused such a deep depression[16]. Surely they had worsening effects. Most important, the oversupply problem was coupled with that of under-consumption, a situation which caused prices to fall. The gold standard and the devaluations further exacerbated the crisis.

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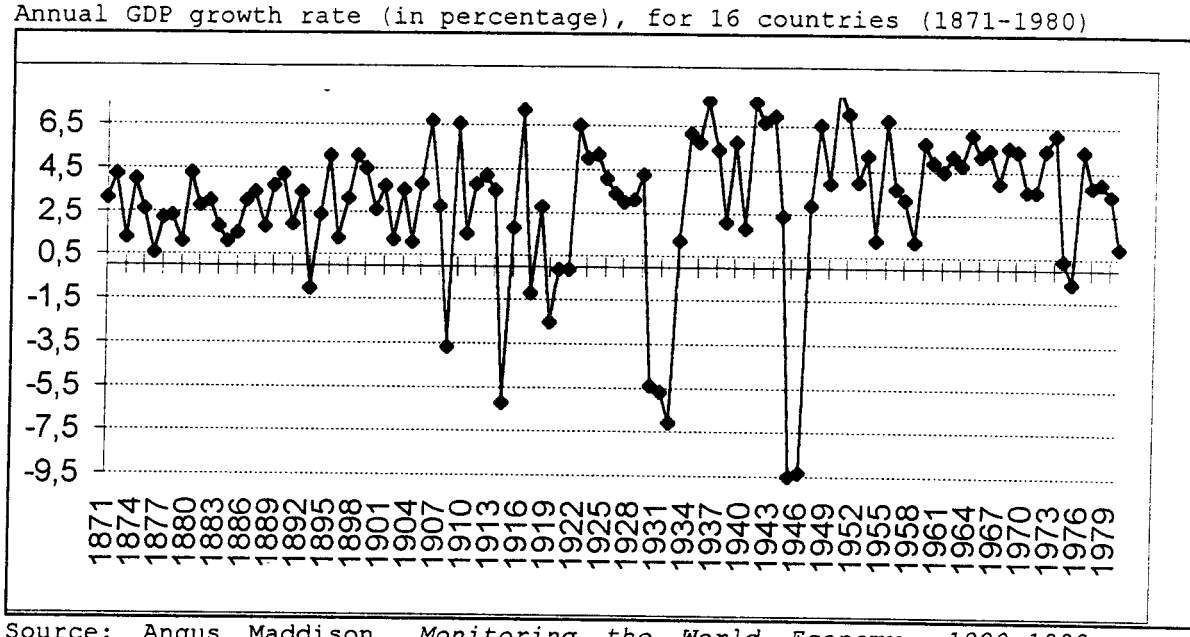
[15] Ibid., p.43.

[16] Ibid., pp. 43-54.

Not all countries suffered to the same degree. While the details of the different experiences will not be dwelt on at length here, it is important to enumerate the main factors: relative prices, economic structure, the composition of foreign trade and the degree of openness, devaluation and debt situation. The effects of declining prices will be analysed step by step, considering one factor at a time, other things being equal. Then, how the eventual interaction of these factors may have affected the "final" outcome will be discussed.

GDP levels fell dramatically between 1930-33. Figure 1 below gives the annual variations of the GDP rates for sixteen developed countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, the USA) from 1871 to 1980. Obviously the decrease of GDP in these countries are unique in the history of capitalism (if we were to start the given era in 1820) excluding the Second World War.

Figure 1
Annual GDP growth rate (in percentage), for 16 countries (1871-1980)



Source: Angus Maddison, *Monitoring the World Economy, 1820-1992* (Paris, OECD, 1995).

Agricultural prices declined more than industrial ones. However, at a national level, the overall impact of the decline in prices on the GDP depended on the economic structure of the country.

The third factor that contributes to the differences in the effects of the depression is foreign trade. First, the higher a country's degree of openness (exports/GDP) the more it will be affected by the decline of prices at the international level. As such fluctuations of prices is a means of propagation of the crisis, and as all prices declined, all countries having trade with and within the developed countries were affected. However the effects differed according to the composition of trade. Countries with a high ratio of manufactured goods in exports and agricultural goods in imports obviously lost

less than countries in the opposite situation. In this sense, price decreases hit relatively less developed countries as can be derived from their composition of exports (see Table 1). Among developing countries those with more diversified exports were less affected than those exporting few agricultural goods for which prices declined most (e.g. wheat, sugar). This point will be discussed at greater length below when considering the case of developing countries.

The fourth factor affecting countries at different levels is the devaluation whereby the price decrease propagated. Oversupply in developed countries meant that prices declined in domestic terms, but in order to get rid of the surplus countries started to opt for devaluation so that their exports would become cheaper and find greater demand. However, when a country starts to opt for such a policy, other countries need to do the same so as not to lose their competitive advantage. Such a process implies that the original decline in prices worsens with the decrease in exchange parities. Hence starts a vicious circle whereby the fall in prices spreads to all countries involved in trade with each other.

The fifth factor involves the debt factor. Two points are to be made regarding the debt issue, the first of which is the effect of the debt burden through the price decline. A country is indebted through foreign

currency, and gains its foreign currency through trade. If the indebted country's terms of trade deteriorate then it will earn less foreign exchange and thus have greater difficulties in paying back loans, which was the case of countries exporting agricultural goods.

The second point is the effect due to devaluation. As devaluation implies that an indebted country's currency loses value, that country will have greater difficulty paying back its debt. However this effect of devaluation should further be relativised with the devaluations of the creditors. If the latter devalue less, then the indebted country benefits. Moreover, devaluation also implies that exports become cheaper and this may further increase foreign exchange revenues. Thus, the outcome of debtor countries versus creditors is not straightforward. However, it is clear that as the decline in trade volume was substantially high and as the debtor countries were more often exporters of agricultural goods, the debt problems were generally "settled" through moratoria, that is, at the expense of the creditors of which the financial situation was all the more aggravated as they were undergoing bank and financial crises in general[17].

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[17] For the national experiences, see Barry Eichengreen and Peter Lindert (eds.), *The International Debt Crisis in Historical Perspective* (Cambridge, Massachussetes, London, England: MIT Press, 1991).

The nature and extent of the depression depended on the factors mentioned above, but another important issue involved the path of recovery, which in turn depended on government policies. This period was characterised by relatively protectionist policies coupled with demand-side policies in order to give a push to declining industry.

The factors which determined the path of recovery were mainly monetary. According to (a) when the country left the gold standard, (b) the exchange rate regime adopted thereafter, and (c) the nature and importance of the government expenditure; the countries recorded different rates of GDP growth. Countries unable to undertake the necessary arrangements to overcome the oversupply problem as they were constrained by the gold standard. The earlier a country left the Gold Standard, the earlier it had room for manoeuvre, that is, gained the means to make counter-cyclical expenditure in order to trigger demand which eventually met the excess supply.

Table 1
Value and composition of merchandise exports in 1929

		Percentage of total		
	Total value (million$,f.o.b.)	Live, animals, food, and drink	Materials, raw or partly manufactured	Manufactures
	[1]	[2]	[3]	[4]
United Kingdom	3542	7	16	77
Germany	3210	5	22	73
France	1965	13	21	66
Belgium	883	8	32	60
Netherlands	799	44	19	37
Italy	779	25	12	63
Czechoslovakia	606	11	17	72
Sweden	485	9	50	41
Switzerland	400	11	9	80
Austria	308	3	23	74
Industrial Europe	12977	13	22	65
Denmark	430	82	6	12
Spain	410	57	21	22
Poland	315	33	47	20
Ireland	230	86	5	9
Norway	200	29	49	22
Hungary	180	67	13	20
Romania	170	41	58	1
Finland	160	9	74	17
Yugoslavia	140	47	44	9
Greece	90	34	64	2
Portugal	50	58	30	12
Bulgaria	45	29	63	8
Non-industrial Europe	2418	53	32	15
Total Europe	15396	18	22	60

Source: Feinstein et al. Table 4.2., p. 59.

Table 2
Occupational distribution of the working population, 1930

	Working pop. (millions)	Percentage in		
		Agr.	Ind.	Serv.
1- Less than 30% in agriculture, more than 40% in industry				
United Kingdom	21,65	6	46	48
Belgium	3,74	17	48	35
Switzerland	1,94	21	45	34
Netherlands	3,18	21	36	43
Germany	32,3	29	40	31
Total	62,8	20	43	37
2- About 35% in agriculture and in industry				
Austria	3,17	32	33	35
Denmark	1,59	35	27	38
Norway	1,17	35	27	38
France	21,61	36	33	31
Sweden	2,89	36	32	32
Czechoslovakia	6,72	37	37	26
Total	37,15	36	33	31
3- About 50% in agriculture and 20-30% in industry				
Italy	17,26	47	31	22
Portugal	3,95	48	18	34
Ireland	1,34	48	15	37
Hungary	3,83	53	24	23
Greece	2,75	54	16	30
Spain	8,1	56	21	23
Total	37,22	50	25	25
4- Over 65% in agriculture and less than 20% in industry				
Poland	15	65	17	18
Finland	1,72	65	15	21
Yugoslavia	6,48	79	11	10
Romania	10,46	79	7	14
Bulgaria	3,43	80	8	12
Total	37,09	73	12	15
Total Europe	174,26	41	30	29

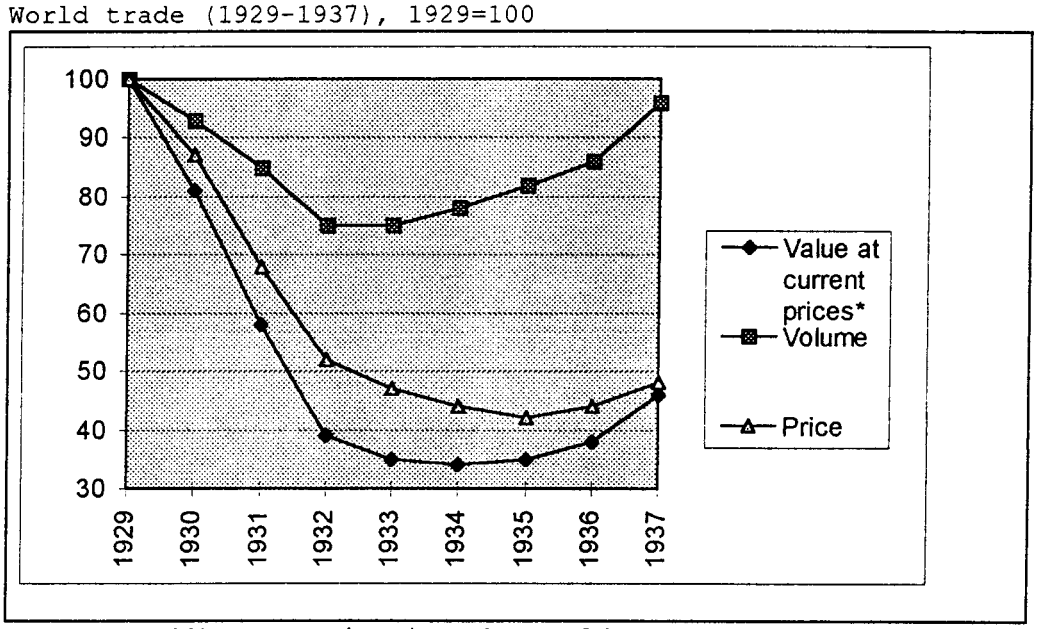
Source: Bairoch et al. (1968) in Feinstein et al. Table 4.1, p. 56.

Table 3
Sectoral growth (1929-1937)
WORLD PRODUCTION AND PRICES, 1929-1937 (index numbers; 1929=100)

	1929	1930	1931	1932	1933	1934	1935	1936	1937
1. Industrial production									
a. World*	100	87	75	64	72	78	86	96	103
b. Europe*	100	92	81	72	77	86	93	101	110
c. North America	100	81	68	54	64	67	76	89	93
2. Primary production-food									
a. World	100	102	100	100	102	101	101	103	106
b. Europe*	100	99	102	104	106	107	107	107	109
c. North America	100	102	103	100	100	98	91	96	97
3. Primary production-raw materials									
a. World	100	94	85	75	81	87	95	106	119
b. Europe*	100	90	82	73	77	85	91	98	109
c. North America	100	90	80	64	69	71	78	91	108
4. World prices									
a. Food	100	84	66	52	46	42	40	42	46
b. Raw materials	100	82	59	44	40	40	39	42	47
c. Manufactures	100	94	78	64	56	50	48	48	51

* Excluding USSR.
Sources: Blocks 1-3: League of Nations (1939*b*: 423-4); block 4: League of Nations (1939*a*: 61) in Feinstein et al., p. 105,171.

Figure 2
World trade (1929-1937), 1929=100



Source: Maddison, *Monitoring the World Economy, 1820-1992* (Paris, OECD, 1995).

If we were to make an overall assessment of the effects of the Great Depression on the developed countries, the first thing to note would be that these countries were faced with several difficulties, and that their internal dynamics were led to crisis for different reasons. Perhaps the only factor which had a deteriorating effect on all trading countries was the problem of over-supply in agriculture where, as we have noted, wheat prices had been decreasing for more than a decade. Another point is that industrial overproduction led to the decisive price decrease, which, with the constraint of the gold standard regime led the different governments to opt for devaluation. This in turn worsened the crisis until the whole world came to be affected by

the shrink of world trade. Consequently, industrialised countries opted for expansionist policies, that is, demand stimulation, thus gradually solving the excess supply problem.

Different effects were compensatory or complementary, but three things can be said on the relative success of the policies: the earlier a country devaluated the better it overcame the crisis; and countries whose production depended on a limited number of agricultural products (which they also exported) were hit worse. The third point is the debt issue, which is rather controversial. It is well-known that in an inflationary environment -unless it becomes chronic and expectations adjust accordingly-, the creditor loses more than the debtor and that in a deflationary environment we have the opposite effect. Surely, this does not imply that debtors are net gainers in a deflationary situation. It can be asserted that the depression actually turned out to be profitable to the debtors because their eventual moratoria were legitimated by the inconvenient economic conditions.

Developing Countries

The divergence of the experiences in developing countries were due to the divergence of the paths even in the case of developed ones as seen above. As such

developing countries showed even a lesser degree of structural homogeneity be it in the social, political or economic sense. Hence, trying to give a comprehensive account of the different cases would be too lengthy and beyond the scope of this study. Above all, the aim is to situate Turkey's agricultural performance in the 1930s in context and to discuss the reasons that lie behind that performance. Keeping this priority in mind, the overall performances of the Latin American and Balkan economies will first be discussed, with an emphasis on developments in the agricultural sector. Then the factors behind the relative success or failures and the context, that is policies and structural particularities, in which they took place will be investigated.

Effects of the Depression (1929-32)

The decade preceding the depression was not marked by the internal dynamics characterising the advanced industrial countries as described above. The oversupply problem, per se, did not exist in developing countries as they had not undergone the mode of production, that is, industrialisation, the developed countries had, meaning that they did not have the similar sectoral distribution in the GDP. Moreover, the international division of labour in the nineteenth century was such that the centre (industrialised nations) imported the raw materials

necessary for its industrial production from the periphery (developing nations). A part of the agricultural consumption was also imported. Differences in quantities among countries withstanding depended on how much the agricultural sector had decreased to the detriment of the industrial sector in the previous century.

Hence the effects of the price decline in developing countries could only be felt through trade. Following what has been explained above, it seems that the developing countries, the economies of which heavily depended on agricultural production, must have suffered considerably from the decline in prices. But how much did the actual price falls at the centre affect the periphery? This depended on the degree of openness of the countries, the composition of exports of these countries and the structure of the production of the countries. That is, on whether the exported products reflected the internal production structure or not, not only in terms of value but also in terms of the percentage/extent of the working population/labour force employed and that of the acreage used in the production of the implied commodities.

First, the effect of the international shock needs to be considered. The decrease of the international agricultural prices led to a significant decrease in the terms of trade. Latin America's terms of trade as a whole

deteriorated by 44 percent in 1932 (1929=100)[18], those of the Yugoslavia by 38.7 percent (1929=100), Romania by 36.4 percent (1929=100), and that of Bulgaria by 28.6 percent (1929=100)[19]. While these countries were affected by the decrease of the prices to great extent, the experiences differed.

Table 4
Price and quantity changes for exports, net barter terms of trade, and export purchasing power, 1932 (1928=100)

Country	Export prices	Export volumes	Net barter terms of trade	Purchasing power of exports
Argentina	37	88	68	60
Bolivia	79*	48	n/a	n/a
Brazil	43	86	65	56
Chile	47	31	57	17
Colombia	49	102	63	65
Costa Rica	54	81	73	65
Dominican Republic	58**	106**	81**	87**
Ecuador	51	83	74	60
El Salvador	30	75	52	38
Guatemala	37	101	54	55
Haiti	49**	104**	n/a	n/a
Honduras	91	101	133	133
Mexico	49	58	64	37
Nicaragua	50	78	71	59
Peru	39	76	62	43
Venezuela	81	100	101	100
Latin America	**36**	**78**	**56**	**43**

*1929=100
**1930=100
Source: Bulmer-Thomas, p. 197, Table 7.2.

As for the Latin American experience, it can be seen from Table 4 that not all of Latin American countries saw their terms of trade deteriorate and among those where it did, not all saw their exports decline in volume. This in turn depended on several factors, one of which was the

[18] Bulmer-Thomas, p. 197.

[19] John R. Lampe et al., *Balkan Economic History, 1550-1950* (Indiana: Indiana University Press, 1982), p. 471.

"commodity lottery". "Commodity lottery" is an expression which refers to the effects of the price decrease differing among Latin American countries as a result of the different composition of exports of the countries and their different destinations. That is, the expression emphasises the differences in the variation of the export prices on a commodity basis and the demand of the countries to which the exports were relatively more oriented.

As such, Bulmer-Thomas summarises the different national experiences in three groups[20]. First, the worst affected: Bolivia, Chile and Mexico, where exports were dominated by mineral products. The demand from industrial countries for these products decreased as a result of their industrial overproduction, as has been described above[21]. For the second group, Argentina, Brazil, Ecuador, Peru, and all of Central America, the volume of exports declined less then twenty-five percent, because their exports consisted of agricultural products for which the demand could not easily be substituted through stocks, that is, for which demand elasticity was low. Hence, these countries' exports, such as wheat and coffee, were maintained at a certain level. The third group, Colombia, Venezuela, Dominican Republic,

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[20] Bulmer-Thomas, pp. 197-199.

[21] Latin American minerals also had competition from synthetic substitutes or domestic production of the industrial countries (eg. U.S. copper production). Bulmer-Thomas, p. 198.

experienced a decrease in the volume of exports less than ten percent. The reason behind the relatively successful performances of these countries lay in their advantageous position vis-à-vis their exports[22]. The decrease was in exports was also due to a decline in the demand for Latin American exports as a result of the protectionist policies of the developed countries, namely those of the United States[23].

The second factor that needs to be considered in assessing the effects of the depression is the problem foreign debt. The effects of debt can be related to two factors: interest rates and the international environment. The details of debt and macroeconomic policies will not be discussed here as they are beyond the scope of this study. A short description will suffice. As in the case of other points, the experiences of each country in Latin America differed. On the whole, nominal interest rates remained high, while export

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[22] "Colombia, exploiting the confusion caused by the collapse of Brazil's coffee scheme, managed a small increase in the volume of coffee exports; Venezuela suffered a decline in the volume of oil exports after 1929, but this merely offset the huge increase between 1928 and 1929. Exports from the Dominican Republic, dominated by sugar, steadily increased during the worst years of the Depression as sugar exporters took advantage of the restraints on Cuba imposed first by the Chadbourne Committee and later by the 1931 International Dugar Committee which was not signed by the Dominican Republic (or Brazil)." Bulmer-Thomas, p. 78.

[23] International agreements revealing the shift to a substantially protectionist international trade order can be seen in the Smoot-Hawley tariff (U.S., 1930); the special tariff imposed on U.S. copper imports (1932); the Ottowa Conference held in 1932 (Great Britain retreating behind a system of imperial preference); the inconvertible aski-mark established by Nazi Germany; the international agreements imposing quotas on main producers (as on sugar in Cuba, and the International Tin Agreement on Bolivian tin).

receipts decreased. This worsened the capacity for repayment, and worsened domestic economic conditions squeezing further imports. Table 5 shows the dramatic increase of ratios of public debt to exports.

Table 5
Ratios of public debt service (actual or scheduled if default occurred), as a proportion of exports

Year	Argentina	Bolivia	Chile	Colombia	Peru	Brazil
1926	10.0	7.3	5.5	2.7	21.6	13.1
1927	7.9	6.1	8.7	4.4	3.2	14.5
1928	8.9	8.5	9.5	8.1	6.0	14.6
1929	10.4	7.8	9.2	11.9	7.4	16.7
1930	18.2	13.5	18.0	14.0	9.5	24.0
1931	22.5	24.5	32.9	15.6	16.3	28.3
1932	27.6	50.0	102.6	21.8	21.4	40.4
1933	30.2	38.5	81.9	29.6	21.7	35.0

Source: For Argentina, Bolivia, Chile, Colombia and Peru: E. Jorgansen, and J. Sachs, "Default and Renegotiation of Latin American Foreign Bonds," p.58, in Barry Eichengreen, Peter Lindert (eds.), *The International Debt Crisis in Historical Perspective* (MIT Press, 1991). For Brazil: E. A. Cardoso, and R. Dornbusch, "Brazilian debt: Past and present," p. 119, in Barry Eichengreen, Peter Lindert (eds.), *The International Debt Crisis in Historical Perspective* (MIT Press, 1991).

Although the debt burden was a factor that worsened the economies of Latin America, the majority of the Latin American countries defaulted, starting with Bolivia (January 1931), Peru (April 1931) and Chile (August 1931). Others followed. By 1934 the defaults were generalised except for Argentina[24], Haiti and the Dominican Republic. "Default was made easier by its very commonness," Fishlow writes. "The failure of the entire

[24] Argentina's "faithfulness" was due her exports being oriented towards the United Kingdom, "whose financial institutions used their considerable political clout to force an agreement upon Argentina" (E. Jorgansen and J. Sachs, "Default and Renegotiation of Latin American Foreign Bonds" in Barry Eichengreen and Peter Lindert (eds.), p. 66.

system went far beyond the capacity of individual bankers to ameliorate, and none tried... Capital markets were essentially closed to long-term movements and only functioned to sustain short-term flight to the United States, providing little incentive for conformity with the rules"[25], meaning that the problem was international and that some of the developed countries were also going through similar experiences (for example Germany and Austria) which in a way legitimised default.

Economic Policies in the 1930s

Table 6 shows no correlation between the GDP performance and the size of a country and the strategy adopted, and also none between the rate of decline in the volume of exports during the depression and the export growth during the recovery period.

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[25] Albert Fishlow, "Lessons from the Past: Capital Markets during the 19th Century and the Interwar Period." *International Organization* 39:3, 1985, pp. 389-439, quoted in Jorgansen, p. 61.

Table 6
Growth strategies of Latin American countries

Country	Size	ISI	ISA	Export growth	Export growth	Exchange rate regime	GDP growth	Reaction
		[1]	[2]	[3]	[4]	[5]	[6]	[7]
Fast-recovering countries					*1929-32 dec. in vol. of exports*		*>50percent*	
Brazil		*		$	25-10%			active
Chile	medium	*		$	>25%			active
Costa Rica		*	#					
Cuba	medium		#	$		~		passive
Guatemala			#					
Mexico		*	#		>25%			
Peru		*		$	10-25%			passive
Venezuela				$	<10%			
Medium recovery countries							*20%<x<50%*	
Argentina	large		#					passive
Colombia		*						passive/ active (after 1932)
El Salvador		*	#	$				
Low recovery countries							*<20%*	
Honduras			#					
Nicaragua			#					
Uruguay	medium	*						active

Sources: Derived from Bulmer-Thomas, Diaz-Alexandro.

Reactions to the depression also differed. In Latin America and the Balkans, the common reaction was devaluation, as seen in the case of developed countries. However strategies and performances in these developing countries differed.

Apart from Mexico and Argentina, the exports of all Latin American countries increased rapidly in the 1930s. The export sector's performance depended once again on the commodity lottery and terms of trade, real exchange rate depreciation, and debt moratoria (as discussed above) after 1932. Although in real terms the terms of trade decreased for some countries, measures adopted in

these countries were such[26] that GDP growth rates between 1932-39 were positive on the whole.

However it is interesting to note that the relationship between the exchange rate regime and export performance was not unilateral; that is, that devaluation did not necessarily imply improvement in the terms of trade, or an increase in the volume of exports and hence, high GDP performance. The commodity lottery, demand, and arrangements with importing countries were of great importance.

The Balkans also owed part of their recovery to exports and clearing arrangements through the establishment of a trade zone with Germany[27].

However, these examples show that recovery through exports always occurred under special conditions and in particular context; that is, that it was not the rule.

Another factor affecting the performance of GDP was the domestic final demand. According to Bulmer-Thomas' calculations of the sources of growth[28], the domestic final demand is even more important than export growth.

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[26] Losers (negative terms of trade between 1932-39): in Costa Rica and Honduras banana prices were revised downwards because of the giant fruit companies; however as prices were highly artificial, the deterioration in the terms of trade was not serious in practice; in Brazil coffee prices decreased; however a successful support scheme helped coffee exports to recover and to reallocate resources in cotton, so that Brazil's exports in volume increased twice faster than the GDP; and in Venezuela oil prices decreased; however, foreign companies' higher returned values were successfully squeezed so that the purchasing power increased. Bulmer-Thomas, p. 221.

[27] Lampe et al., pp. 456-469.

[28] Bulmer-Thomas, p.214.

This is quite understandable given the fact that the decade was primarily marked by protectionism (as seen in the previous section). As such an analysis of the non-export sector is in order beginning with the industrial sector.

The best industrial performances owed much to protectionist policies marking early phases of import-substituting industrialisation, and Keynesian policies in triggering domestic demand (see Table 6).

Following that, the agricultural sector. Agricultural performance depended on several factors such as weather conditions, the land/labour ratio, the production structure and state policies (credits, purchases, subsidies). It should be noted that countries dominated by cash-crop production, that is, of which the GNP depended heavily on the production of one or few crops, had a particular agrarian structure. The free trade of the nineteenth century and the beginning of the twentieth century (excluding the crises of the end of the nineteenth century and that due to World War One) brought on cash-crop specialisation in a number of countries. However, the degree of specialisation differed. In countries with a high degree of specialisation, as in a number of countries in Latin America, large landowners were in the majority (high profits implying concentration of the means of production), meaning a concentration of production units of the most fertile lands in the hands

of large landowners. As such, a number of Latin American countries, despite having a high land to labour ratio, had difficulties shifting to other types of subsistence production, and when they did, productivity remained rather low due to the low fertility of the available, previously uncultivated lands. This was equally true for some of the Balkan countries. Above, the relationship between the exports (including agricultural exports) and the depression and the fact that it actually depended on the commodity lottery was discussed. For the Balkans, which mainly produced wheat, the situation was disastrous. Here cereal production dominated (except for Greece).

It was in the Balkans that "etatism" started. The reason why the 1930s have been called the era of etatism was the state intervention undertaken during the depression as a last resort, meaning that the state intervened in the market by purchasing cereals at higher prices than the market price and/or undertook large projects of credit allowances so as to help the small peasantry out of distress. Indeed, state purchases in these countries were of great importance, and helped these countries recover from the depression[29].

Although the impact of the decreasing prices depended mainly on the three factors stated above,

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[29] On agricultural performance and policy in the Balkans in the 1930s, see Lampe et al., pp. 435-456.

performance in the longer term further depended on the policies adopted by the governments, be it the strategy of "development" or monetary policies.

The oversupply of production, aggravated by the further decrease of prices brought on by monetary policies at the centre caused significant deterioration both in the trade value and volume. This in turn obliged the quasi-totality of the countries involved in the same circle of trade to opt for inward-looking strategies. However the nature of the strategies differed. Developed countries had strong industry; their strategies differed because they could rely on Keynesian policies (although debates on whether these were really Keynesian or not continue). They could afford to undermine their agricultural sectors. But what is most important to note is that the effects on the developed economies were all the more disastrous in that they had problems in both the agricultural and industrial sectors which were relatively more developed and intertwined than those in developing countries.

The most devastating effects of the depression were undeniably felt in the developed countries, due to the specific long-term trends of production and demand these countries faced. With the collapse of world trade, the recovery could be started on a new basis, with protected economies where the collapse of production due to lack of

demand could be triggered with Keynesian policies, in both industrial and agricultural sectors.

As for the developing countries, an overall assessment is difficult to make; however, a few points can be drawn. First, the depression, as elsewhere, was felt through the collapsing prices on the world market for agricultural products, which negatively effected both the external and internal terms of trade for the countries examined. As such, recovery through exports was the exception. Fast-recovering countries achieving successful industrial growth rates benefited from protectionist measures and deteriorating internal terms of trade. They had the advantage of not having saturated markets, and being mainly agricultural economies, benefited from low consumption propensities, although expansionist policies were implemented in most instances as in developed countries.

Turkey fits in this framework of analysis in the sense that it was less affected by the depression. Macroeconomic indicators would even reflect a picture of positive success. What were the factors behind this "success"?

CHAPTER II

THE GREAT DEPRESSION AND TURKEY

From the 1920s to the 1930s

The young Republic's main project was that of modernisation, meaning that the former order was to be renewed on new, modern institutional bases. In the economic arena this implied a more deterministic approach. Under Ottoman rule, economic liberalism had hampered industrialisation, greater state intervention was needed to fill the gap. However, the passage to a new economic order was not sudden, both in terms of the evolution of history of the economic thought and in terms of the implementation of the interventionist economic policies.

The Young Turks, at the end of the nineteenth century, had been willing to implement a new national economy based on protectionism -as advocated by the German historical school. Later, the Bolshevik Revolution was an important source of inspiration to the descendants

of the Young Turks[30]. Although the opposition to the Sultanate was primarily political, the economic backwardness of the country was also at stake.

Nevertheless, the flourishing literature (namely from the Young Turks' and the Union and Progress movement) did not have the context to be fully implemented. For Turkey the 1920s were, as for other countries, a continuation of the pre-war order. The economy under the early republic continued to rely on free-trade. This should be conceived within the existing international context. As seen in the previous chapter, from the first world war until the depression, the pre-war international order, based on free-trade, was maintained. The pre-war order was maintained in the monetary sense (retention of the gold standard) and in the sense of trade regime (free trade). In the case of Turkey, the Lausanne Treaty, constituted the institutional aspect of the broader international order as it imposed restrictions on trade limitations.

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[30] For the theoretical bases and inspirations of the early Republican economic policies, see Zafer Toprak, *Milli İktisat-Milli* **Burjuvazi and** *İttihat-Terakki ve Devletçilik* (İstanbul: Tarih Vakfı Yurt Yayınları, 1995).

Note that protectionism and inward-looking growth were surely not a mere conjunctural shift. Supporters of national, and closed economy theories, had existed since the nineteenth century, and the establishers of the republic had counted among their followers in majority. The restrictions brought by the Lausanne Treaty may even be given as an example showing that the republican government could not set the appropriate policies although it may have wanted to. But then, in all times, in all countries supporters of contradicting economic policies exist; the prior aim here is to understand the trends in the real economy and the factors behind the actual choices made, rather then the ideas.

However this order did not constitute an obstacle to economic development and growth. With the wars and the foundation of the new republic, due to forced expatriations and population exchange the number of the non-Muslim citizens decreased. This population constituted the majority of the group involved in trade activities (domestic and foreign). Hence, a new Turkish Muslim bourgeoisie, which the state sought to develop, the new bourgeoisie which was to assure capital accumulation and eventually trigger the industrialisation process of the country, had the room to develop within the existing international context. Thus, the 1920s were a period of flourishing trade, as a result of favourable terms of trade.

Shift in the Economic Policy in the 1930s

The most relevant data that reveal the difference between the 1920s and the 1930s are foreign trade indicators.

Table 7
Foreign trade indicators (1920s vs. 1930s)

Years	GDP p.c.*	Exports/ GNP	Imports/ GNP	Export/I mport	Share of imports			Share of exports
					Consumption goods	Intermediate goods	Investment goods	Agricultural goods
1909**				72,30%				
1924-29	88,5	11%	17.3%	80%	57%	23,50%	7%	79,83%
1930-39	108	7.9%	7.18%	110,50%	30,10%	38,20%	16,70%	80,20%
1940-46	119			153%	19,57%	47,86%	14,71%	78,00%
1947-50	136			86%	21,50%	40,25%	26,75%	79,50%

*Periodisation for GDP index: 1923-30, 1931-40, 1941-45, 1946-50.
Sources: SIS (1996); Tezel (1994); Table 3.1 p.110; Table 3.5, p. 118; Table 3.7, p.121; Table 3.6, p. 119; Pamuk (1984).

Table 7 gives these figures. Obviously, the 1930s mark the beginning of a period during which the main characteristics were, first, a balance-of-trade surplus; second, a decrease in foreign trade; third, an increase in the share of the intermediary and investment goods imported; and fourth, an increasing GDP. These observations reveal the nature of the economic policy followed, and hence, the nature of growth.

The first observation (a balance-of-trade surplus), together with the monetary and foreign exchange policies, reveal orthodoxy. Turkey opted to maintain parity with gold and fixed exchange rates despite the devaluation of the foreign currencies -as Turkey's main trade partners, Great Britain, France and Germany, left the gold standard. These measures were taken as a reaction to the catastrophic Ottoman experience, but also led to the over-valuation of the Turkish Lira[31]. A tight monetary policy featuring the avoidance of expansionist expenditure and emission was the other tool for this orthodoxy.

The second (decrease in foreign trade) and third (increase in the share of the intermediary and investment goods imported) observations are in concordance with the policy followed: the external deficit was overcome for

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[31] Yayha Sezai Tezel, *Cumhuriyet Döneminin İktisadi Tarihi* (Tarih Vakfı Yurt Yayınları, 1994), pp. 171-173.

the first time in a century and the composition of imports started to shift significantly from consumption to intermediary and investment goods[32]. This meant that domestic manufacturing production developed, gradually replacing imports the struggle to meet to internal demand[33].

The fourth observation (increasing GDP) is of great significance in the sense that it reveals an important rate of growth in these years.

Table 8
Aggregate and sectoral growth rates (1923-46)
(Average annual growth rates in percent)

	1923-46	1923-29	1929-39	1939-46
GNP	4.6	10.3	5.2	-2.0
GNP per capita	2.6	8.4	3	-3.2
Agricultural output	4.9	13.6	4.4	-1.4
Manufacturing output	3.3	7.2	5.2	-3.0
Total industrial output including construction	4.5	10.2	5.7	-2.6

Source: Şevket Pamuk, "Intervention in Response to the Great Depression: Another Look at the Turkish Case, 1929-39", paper presented to the Conference on "Long-Run Economic Change in the Mediterranean Basin", Istanbul, 1998.

Table 8 gives figures regarding aggregate and sectoral growth rates. These rates reflect significant growth in the 1920s; however, these figures should not be

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[32] Although the change had started in the 1920s, namely in cotton, for which domestic demand had increased during this decade, and of which domestic production had increased at the detriment of imports because British cotton textiles' production had already started to decrease in these years (Çağlar Keyder, *Dünya Ekonomisinin İçinde Türkiye* (Tarih Vakfı Yurt Yaınları, 1993), p.49, 53; the shift in the composition of exports became more significant under etatism where there was greater protectionism. The trend in the 1920s can be seen as a 'proto-ISI', or a 'natural ISI', given that Turkey had thereby made effective use of its traditional textile manufacture in a context where its comparative advantage increased in a free-trade environment.

[33] Tezel, p. 176.

compared as such with figures for the 1930s, as the 1920s were years of recovery during which production per capita gradually reached its pre-war levels[34].

Comparing Turkey's growth levels with that of other developed and developing countries[35] affected by the crisis shows the importance of Turkey's achievement in the 1930s. First, recovery had been completed by the mid-1920s. Second, the second half of the 1920s had been years of difficulty. The Lausanne Treaty had come to an end in 1929. The same year imports increased as a result of speculation due to expected rising tariffs, which, third, caused a shortage in foreign exchange. The situation was further aggravated by the bad harvests of 1928-1929 due to draught, which led to a decrease in exports, and further a decrease in foreign exchange revenues.

Under these circumstances, the economic performance of the 1930s deservedly attracted attention. Turning back to Table 2, the record of industrial output was impressive. The achievement of the manufacturing sector was very important, considering the long-term economic growth of Turkey. Indeed, industry in the Ottoman Empire had been very limited due to internal dynamics on the one

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[34] The recovery reflects spectacular growth rates all the more because Turkey had not only participated in World War I, but had been at war since the end of the nineteenth century in the Balkans, and then had entered into the Independence War after World War I.

[35] See Chapter One.

hand and the international economic order on the other. The 1920s were a continuation of that order, as said above. When the policies adopted in the face of the depression and the foreign exchange shortages that were a result of the orthodox policies are considered, the achievement is indeed spectacular.

Another question to be asked about foreign trade is whether foreign trade was a source of growth. Surely, given the extent of the contraction in the overall volume of foreign trade, it would be difficult to say that it was (according to Hansen trade accounted to about seven percent of total growth in the 1930s[36]). However two issues need to be considered. First, that although the volume of trade significantly decreased throughout the 1930s, the external balance had been given surpluses, and in this sense the accumulation in foreign reserves had been a source of income for imports in intermediary and investment goods that were crucial in the process of industrialisation. This can be attributed to the equilibrated external balance policy concern of the government.

The second issue that needs to be considered is the performance of the agricultural sector during the depression. Protectionism, a conservative foreign

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[36] Bent Hansen, *The Political Economy of Poverty, Equity and Growth, Egypt and Turkey* (World Bank Oxford University Press, 1991), Table 9-2, pp. 326-327.

exchange rate regime was also an important factor behind the growth in the manufacturing sector, but there is yet another side to the story: the agricultural sector[37]. Agricultural production increased above pre-war levels during the period under consideration, but before getting in to the reasons behind this growth, it is important to understand the relationship between the manufacturing sector and the agricultural sector.

The rate of industrial growth was obviously high compared to that of other economies around the globe, developed or not. The reasons behind the growth is said to have been protectionism coupled with agricultural price differentials. If policy arguments explain the growth of supply, the demand also needs to be analysed. Indeed, the policies could not have worked without certain specific demand conditions. How, in a context of orthodox policies which also favoured savings and a context of protectionism where external demand was minimised (all the more because of the international conjuncture), could demand be generated? The answer may lie in Turkey's specific socio-economic structure. Although detailed and/or reliable data on wages and incomes for the period are not available, it may be

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[37] Şevket Pamuk gives a preliminary discussion on the subject in Owen, Roger and Şevket Pamuk, *A History of the Middle East Economies in the Twentieth Century* (Harvard: Harvard University Press, 1999).

affirmed that the urban population[38], though not large, constituted the demand for the period; as the developing industry mainly consisted of normal final goods, and the propensity to consume of the rural population is lower than that of the urban population, and became even lower as the depression negatively effected their relative income level.

The transfer of income from rural to urban areas in pre-industrial societies is done through taxation, and this is how it was done in the Ottoman Empire[39] where the tithe accounted for at least ten percent of the agricultural production in the late nineteenth century. However, in the aftermath of long wars, this mechanism needed to change. First, for the simple objective of accelerating recovery. Second, as the country was primarily concerned with industrialisation (although it could undertake the task only after 1929 in practice), transferring agricultural surplus through direct taxation would hamper recovery and thus production increase and the amount of collected tax itself. The abolition of the tithe in 1925 not only reduced the peasantry's burden, it equally

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[38] Obviously we need to clarify what we mean by "urban population", especially if we are to put forth the "price scissors" argument where -as we shall see, it is assumed that workers' wages must have been relatively low. Here, by "urban population" we mainly refer to civil servants and independent/autonomous urban producers.

[39] Tevfik Güran, *19. Yüzyıl Osmanlı Tarımı* (Eren Yayıncılık, 1998), p. 123.

permitted the weakening, economically and politically, of the *mültezims* who had been enriched through the collection of this tax.

The question of transfer of agricultural surplus to the industrial sector in a closed economy has been a matter of great debate in the literature. The first step in this kind of analysis is to draw out the economic policy concerns of the state. We know that industrialisation has been put forth as a primary concern in the case of Turkey in the 1930s. We have seen that the end of the Lausanne Treaty allowed Turkey to opt for greater protection through higher tariffs and quotas, and that together with the unfavourable international context, trade could no longer be relied upon as a source of income. Moreover, having opted for orthodox policies, the Turkish government had no choice but to find a way to reallocate its existing resources. Given the economic structure of the country and the will of the government to pursue tight monetary and budgetary policies, two possibilities appeared: the substitution of domestic production for imports, and the transfer of agricultural surplus to the manufacturing and industrial sectors.

The possible means of transfer as discussed in the literature can be summarised as follows. First, through the price scissors mechanism, which describes a situation in which relative agricultural prices are low -as compared to industrial prices-, cheap agricultural prices

provision cheap input for industrial production, and cheap alimentation to wage-earners in the industrial sector, which allows the latter to gain from low wages. Hence, industry benefits from lower agricultural prices/agricultural surplus through two mechanisms. As the share of wages decrease, the increasing share of profit serves as a means for capital accumulation. In addition, the decrease of agricultural prices also means lower input prices. This goes along with the logic of the state policy which further controls production on the basis of low agricultural prices through the establishment of monopsonies[40] as with the sugar production, or again indirectly through state wheat purchases -where prices are also kept low (as in the Soviet Union, and in Turkey as will be seen in the following chapter).

However, the effect of the price scissors has been questioned on the grounds of the problem of incentives (the Preobezhensky dilemma)[41]. It has been argued that in a context of important decrease in agricultural prices, which in the case of the Soviet Union were aggravated by extensive state intervention through purchases at low prices, farmers could behave so as to protect themselves

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[40] Mark Harrison, "Primary Accumulation in the Soviet Transition," *Journal of Development Studies*, 22:1 (October 1985), p. 87.

[41] Harrison, p. 88.

by hiding their production, that is, by withholding it from the market[42].

The second means of surplus transfer from the agricultural to the industrial sector is labour. Indeed, industrialisation requires labour at a higher rate than the natural rate of population increase. This excessive demand can be satisfied either by immigration or by internal migration. In the case of the Soviet Union, the deterioration of rural incomes was such that the peasants were obliged to migrate. In many cases they were forced to migrate, given the magnitude of the state's coercive power which made possible the mobilisation of rural labour to the urban areas for political reasons[43].

Testing these theoretical and empirical findings in the case of Turkey the following results are obtained. First, domestic terms of trade did decline (Table 9). It surely did affect the prices of inputs to industry.

Table 9
Ratio of agriculture to manufacturing sector based on implicit deflators

1923-25	105.1
1927-29	117.1
1931-33	111.7
1936-38	94.6

Source: Hansen, Table 9-6, p. 332.

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[42] Another aspect of incentives problems concerns the debates on peasantry behaviour. It has been argued that in a context of favourable terms of trade, peasantry behaviour is rational; John Antel and Paul Gregory, "Agricultural Surplus Models and Peasant Behavior: Soviet Agriculture in the 1920s," *Economic Development and Cultural Change*, 42:2 (January 1994). However, the case of declining prices where the supply inelasticity must be much greater is not mentioned.

[43] Harrison.

This no doubt affected wages too. Pamuk estimates that although it is difficult to assess the exact trend of wages during the period, wages probably declined in the 1930s[44].

As for labour migration, the share of the urban population did not change much throughout the period under consideration[45]. Hence, it cannot be said that any kind of massive rural exodus whatsoever took place. However, a transportation tax could be paid by workdays, meaning that the state collected tax for the construction of transport infrastructure, which could be paid either in cash or in kind, in terms of labour. Here, the use of rural labour must have played an important role, especially since the share of this tax decreased, as will be discussed in the next chapter.

Wheat Exports

Growth of industrial crops can be explained by the fact that this sector was controlled by the state. Its demand was constituted by the industrialisation process. Growth in fruit production can be explained by the lower elasticity of supply, and by the fact that although

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[44] Şevket Pamuk, "Long-term Trends in Urban Wages in Turkey, 1850-1990," in V. Zamagni And P. Scolliers (eds.), *Labour's Reward, Real Wages and Economic Change in 19th- and 20th- Century Europe.* (London: Edward Elgar Pub, 1995), pp. 96-98.

[45] Ibid., p. 96.

international trade decreased in general, demand for Turkey's specific exports did not decrease as much.

However, the matter is different for cereals. It is true that Turkey, from being a net importer of wheat became a net exporter by the end of the 1930s. This is an important point, given that one of the main reasons behind the depression in the agricultural sector in the international context was precisely the over-production of wheat. In current terms, exports of wheat and barley increased from almost three million to about six and a half million Turkish Liras between 1926-28 to 1931-39, which corresponds to an increase of over a hundred percent. 1934, 1937 and 1938 correspond to the years when cereal exports reached their peak in this decade: 10,974,000 TL, 18,923,000 TL and 15,699,000 TL.

This increase has been rightly attributed to the increase in Germany's demand. Indeed, the Nazi regime sought to create a trade zone with Eastern Europe, including Turkey in the project. As such the two countries undertook clearing arrangements whereby Germany exported intermediary and investment goods in favourable conditions and in return bought large amounts of Turkey's cereals. The share of Germany in Turkey's exports and imports jumped respectively from twenty percent in 1933 to forty percent in 1934 for exports, and from twenty-

seven percent to thirty-six percent for imports[46]. On the export side the main articles that increased as exports to Germany were cereals, namely wheat and barley. The three years described as "peaks" above for cereal exports correspond to the increases of cereal exports to Germany.

Table 10
Cereal exports to Germany

		Wheat*	Barley	Total	Wheat price TL/tons	Wheat price TL/tons (to all others)	Barley price	Barley price-all others
1929	Quantity	189	500	689	126.98	105.59	58	61.53
	Value	24	29	53				
1930	Quantity	364	700	1064	79.67	72.67	35.71	47.15
	Value	29	25	54				
1931	Quantity	1489	2546	4035	47.01	50.34	41.24	37.99
	Value	70	105	175				
1932	Quantity	19018	626	19644	50.79	46.98	47.92	38.69
	Value	966	30	996				
1933	Quantity	21376	122	21498	39.71	46.29	24.59	29.55
	Value	849	3	852				
1934	Quantity	80816	71956	152772	47.33	35.76	35.75	32.58
	Value	3866	2573	6439				
1935	Quantity	59013	7434	66447	44.39	37.75	34.70	38.05
	Value	2620	258	2878				
1936	Quantity	33209	9541	42750	55.95	69.41	39.72	49.55
	Value	1858	379	2237				
1937	Quantity	101388	41666	143054	72.32	92.33	49.53	42.25
	Value	7333	2064	9397				
1938	Quantity	87556	61131	148687	57.34	43.74	42.99	40.39
	Value	5021	2628	7649				
1939	Quantity	19335	45433	64768	47.01	40.16	43.2	48.18
	Value	909	1963	2872				
1940	Quantity	23848		23848	49.85	48.49		57.82
	Value	1189		1189				

Quantity in tons, value in '000 TL.
* The exports of wheat according to countries give figures for Italy, Syria, Greece and others. The latter category is used as a proxy to exports of wheat to Germany.
Source: *Statistical Yearbook*, 1940-41, State Institute of Statistics, pp. 379-80.

It has been argued that this increase in cereal production was due to the relatively high prices offered by the Nazi regime[47]. Two conclusions are drawn from this observation. First, that the price incentive were a factor of growth in cereal production, and second, that

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[46] Tezel, Table 5.2, p. 168.

[47] Tezel, pp. 177-178; Silier, Oya, *Türkiye'de Tarımsal Yapının Gelişimi (1923-1938)*, (Boğaziçi Üniversitesi Yayınları: 1981), p. 84.

the increase in wheat exports was the outcome of state policy and that peasants sold their cereals despite their need to consume it[48]. The latter argument seems unlikely, given that the wheat purchases by the state were very limited[49].

That the high prices constituted an incentive can be challenged. First, these prices were not reflected to producers. Second, the argument is based on an article[50] which argues that prices offered to Turkey were higher than world prices. However how can this be considered an incentive if the price offered was below the domestic price?

Indeed, Table 10, which gives prices and quantities of cereal exports to Germany, does not show any consistency between the years in which exports peaked and those in which price differentials would be high. Thus it is not possible to argue that in the case of Turkey cereal exports to Germany were a result of the latter's expansion policy through the offer of relatively higher prices.

Moreover, the increase in the export of cereals can not be considered as a factor that would have stimulated the domestic agricultural production for three reasons.

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[48] See Chapter Three.

[49] See Chapter Three.

[50] *The Economist* (August 5, 1939), pp. 263-264.

First, the prices offered to Turkey did not particularly reveal an increasing trend. Second, and most importantly, cereal exports constituted only 3.5 percent of total cereal production in tons in 1937, a year when they were at their highest point (for wheat the ratio is even lower: 2.9 percent). When the price of cereals per ton is calculated for the same year, the following prices are obtained: 42.6 TL for the total production and 73.8 TL for exports.

Third, when the evolution of total cereal production is examined it is seen that the main jump occurred in 1936 (certainly not in 1934 when total cereal production hardly increased compared to 1933, as opposed to cereal exports) when cereal production increased by 52.31 percent in terms of tons compared to the previous year. As such, we may affirm that the increase in exports at the most *followed* the increase in domestic production. This is certainly not inconsistent with the view that Germany was pursuing a policy of expansion and trade partnership with the Balkans and Turkey[51] as argued by Tezel, who gives evidence mostly in the form of the growing trade relationships of Germany with Turkey (clearing agreements) in both exports and imports at preferential rates for different products. However, to what degree Turkish cereals were needed by Germany must

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[51] Lampe et al., pp. 456-469.

be asked given the limited amount it imported[52], the fact that the Balkans had been a traditional exporter of wheat to Germany since the end of the nineteenth century, and that even in this region the renewed interest of Germany is dated 1933[53].

Although clearing arrangements must have made important contributions to Turkey's industrialisation project in the 1930s, it seems difficult to argue that Germany's wheat purchases were a *cause* of growth in cereal production. Beside the arrangements are done with the government, not the peasantry. Even if it is a favourable trade contract for the government, it would be difficult to argue that the price incentive would be reflected to the producers, as said above. It seems that considering the German concerns in Turkey as mainly political and strategic is a more probable explanation. Hence, the increase in cereal production remains to be explained.

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[52] 0.6% and 2.9% of Turkey's total wheat production were imported by Germany in 1933 and 1934.

[53] Lampe et al., p. 461.

CHAPTER III

SOURCES OF AGRICULTURAL GROWTH IN THE 1930s

In order to assess the performance of the agricultural sector in the 1930s first the trend of the agricultural production will be described. Second, given the significant growth recorded in this sector, the factors behind the growth will be analysed. This requires the use of regional data. The categorisation of regions as given in the official statistics of the time are followed. These regions, and the towns they include are as follows:

Region 1: Central Anatolia

Ankara, Bilecik, Bolu, Çankırı, Çorum, Eskişehir, Kırşehir, Kütahya, Yozgat.

Region 2: The Aegean

Aydın, Balıkesir, Burdur, Çanakkale, Denizli, İzmir, Isparta, Manisa, Muğla.

Region 3: Thrace and the Marmara Coasts

Bursa, Edirne, İstanbul, Kırklareli, Kocaeli, Tekirdağ.

Region 4: The Mediterranean Coast

Antalya, Gaziantep, İçel (Mersin), Maraş, Seyhan (Adana).

Region 5: Eastern Anatolia

Beyazıt (Ağrı), Çoruh, Erzincan, Erzurum, Kars.

Region 6: South-Eastern Anatolia

Bingöl, Diyarbakır, Mardin, Bitlis, Hakkari, Maraş, Siirt, Urfa, Van.

Region 7: Black Sea Coast

Giresun, Gümüşhane, Kastamonu, Ordu, Rize, Samsun, Sinop, Trabzon, Zonguldak.

Region 8: Central Anatolia (Central Plateau)

Amasya, Elazığ, Malatya, Sivas, Tunceli, Tokat.

Region 9: South-Western Anatolia

Afyonkarahisar, Kayseri, Konya, Niğde.

The composition used for the agricultural production will include cereals: all kinds of wheat, grain, barley, oats, rye, rice, millet, grains, maize, mixed crop of wheat and rye; pulses: broad bean, pea, chickpea, bean, lentil and fresh beans; industrial crops: potatoes, beet, cotton (pure and seed), anise, hemp, hemp seed, opium, opium seed, flax (fibre and seed), onion, garlic, sesame and tobacco; which correspond to the categories and articles as enumerated in the agricultural statistics[54]. Detailed tables of agricultural production and acreage at both aggregate and regional levels are given in Appendixes B, C, D and E. Tables and figures relative to

[54] Fruits are excluded, because detailed figures for these are unavailable. Note that the production of fruits in constant figures (1938 prices) increased by sixty-seven percent between 1929 and 1939. Wherever they will be used, it will be explicitly mentioned.

agricultural production (in tons) and acreage (in hectares) in this chapter are derived from the cited appendixes.

Production and Acreage Trends[55]

Figure 3

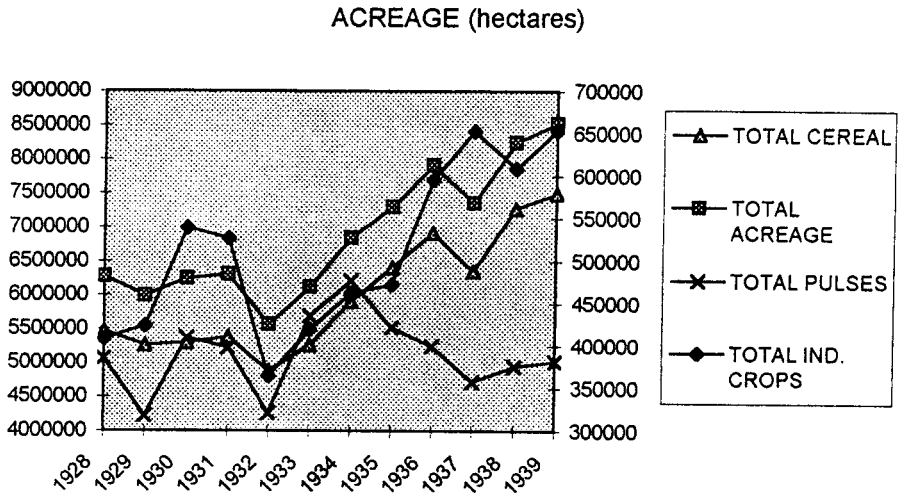
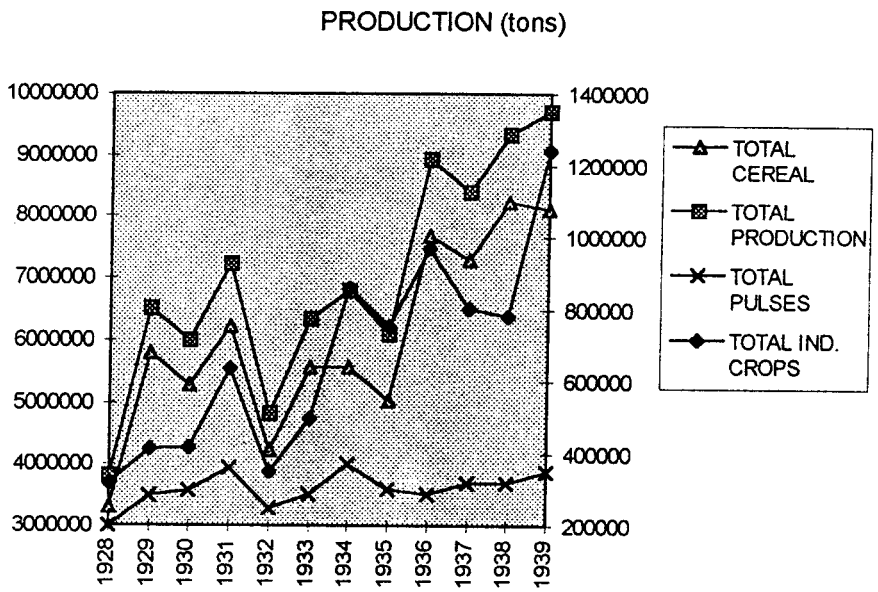


Figure 4



Sources for Figure 3 and 4: Appendix A.

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[55] The different categories of products used in this section are those defined in the preceding chapter. Fruits and the like are not included as desegregate data for these are not as available for those used, and desegregate data for tobacco production is only available from 1930 onwards, however incomplete.

The first thing to note is the increasing trend in both production and acreage. As noted in Chapter Two, the increase in agricultural production was not only an important component of the aggregate growth, but also contributed to the industrial growth. Hence, the aim in this chapter is to show the extent of this growth and explain the factors behind it.

However, before beginning that discussion, a few words are needed to explain the decrease in agricultural production which began in 1932 and extended until 1935. Indeed, as seen in Figures 3 and 4, the major exception to the increasing trend was 1932 in both production and acreage. Basically three factors may be advanced to explain this decrease. First, the effect of rainfall. However, the relevancy of such an explanation is very low as will be seen in the section on the impact of rainfall on production later in this chapter. Although climatic conditions may explain fluctuations in production, the decrease in acreage is certainly more difficult to explain[56].

Second, although agricultural prices declined from 1930 onwards, the steepest decline occurred in 1931 (see Appendix E). It may then be argued that as a response to

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[56] "The percentage of land area planted to wheat is much less affected by weather fluctuations, because the fields are planted before the next growing season's rainfall is known". Frederic C. Shorter, "The Population of Turkey After the War of Independence," *International Journal of Middle Eastern Studies*, no. 17 (1985), p. 427.

declining prices, peasants increased their production in 1930 and 1931 in order to maintain their income level[57]. This in turn, aggravated the decline in prices in 1931 to such an extent that in 1932 they no longer had the means to produce at the previous levels. This argument is supported by two facts. The first is that the price series gathered by Bulutay and his colleagues does in fact reflect important decreases in both 1930 and 1931 almost by the same amount (forty-two percent and forty-five percent respectively for wheat, meaning a decrease of sixty-four percent from 1929 to 1931). The second fact is that from 1931 to 1932 grape production increased from 30,000 to 85,000 tons[58] in the Aegean coastal region. If there had been unfavourable climatic conditions, all production would have decreased.

A third explanation, for this decreasing period, is related to the nature of the data. It is argued that the cereal production estimations as calculated by Bulutay et al. were based on marketed production[59]. If, as in the second point above, it assumed that cereal production was mainly subsistence-oriented, such logic would imply that

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[57] The argument of increasing production despite declining prices as an explanation to peasantry behaviour will be analysed further in detail in the section on productivities.

[58] Republic of Turkey, various Agricultural Yearbooks, State Institute of Statistics.

[59] Çağlar Keyder, Şevket Pamuk, "1945 Çiftçiyi Topraklandırma Kanunu Üzerine Tezler," *Yapıt*, no. 8 (1984), pp. 57-58.

due to price decline, the peasantry would have been more reluctant to market its produce[60].

Having thus resolved to some extent the debate on the decline of 1932, an analysis of the increasing trends follows, with the omission of 1932 and the following three years, and look at the increases in general in the period.

Table 11
Variations in acreage and production of main products and total production

	Wheat	Barley	Total Cereal	Total pulses	Beet	Cotton (pure and seed)	Onion	Garlic	Tobacco	Total ind. crops	Total production
Variations in acreage											
1928/29-1938/39	37,9%	34,7%	37,5%	7,6%	201,9%	56,0%	231,8%	215,1%	34,7%	51,9%	36,8%
1928/29-1933/34	4,0%	1,8%	4,0%	29,8%	73,5%	-1,2%	54,1%	51,4%	-19,4%	5,9%	5,6%
1933/34-1938/39	32,6%	32,4%	32,2%	-17,1%	74,0%	57,8%	115,3%	108,2%	67,2%	43,4%	29,5%
Variations in production											
1928/29-1938/39	93,4%	79,8%	79,5%	38,6%	653,5%	-8,0%	125,6%	181,2%	56,2%	175.2%	84.4%
1928/29-1933/34	23,5%	25,8%	22,2%	36,0%	421,0%	-53,1%	37,6%	12,9%	-4,7%	84,4%	27,2%
1933/34-1938/39	56,6%	42,9%	46,9%	1,9%	44,6%	95,9%	63,9%	149,1%	63,8%	49,2%	44,9%

Source: derived from Appendix A.

The first thing to note is that, on the whole, production and acreage both increased thirty-seven percent and eighty-four percent respectively from 1928/29

[60] This is consistent with the peasantry behaviour discussed below, where a peasant markets his surplus only if he has a surplus and only if relative prices are convenient. In a situation where relative prices decline suddenly, a peasant will tend to return to subsistence production, that is, not to sell his production on the market (which would be reflected as a decrease in production in the statistical series) and possibly to minimise his production in order to minimise his losses. We shall keep that even if production decreased in 1932, the low level of production in the following years was due to the nature of the statistics. This choice is all the more supported by acreage figures which obviously do not reflect any decrease 1932 onwards.

to 1938/39[61]. If the two sub-periods of 1928/29 to 1933/34 and 1933/34 to 1938/39 are compared, the record of the second sub-period is much more impressive as seen in Table 11.

As regards the differences in growth rates between acreage and production, the latter increased much more than the former. Here it shall only be affirmed that the reason behind this difference can be explained by increases in productivity rates (labour mainly and land to a much lesser extent), and other factors. But we shall come back to these issues shortly, below.

The most spectacular increases were observed in industrial crops, and this is mainly due to the state's industrialisation policy. Indeed, the main contribution to the high rate of growth in industrial crops was brought by beet production. This is consistent with the nature of the early phase of the import-substituting policy pursued by the government. Indeed, sugar is a consumption good, and relies on agricultural production, as such it was one of the first production plants to be implemented under etatism. Moreover, elsewhere in the world, sugar was being produced under state monopoly which constituted a model for Turkey in concordance with its etatist priorities.

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[61] Although Tezel's indexes do not reflect any growth in acreage in the 1930s compared to 1926 (Tezel, p. 350), it seems that the figure for 1926 is not very reliable, given that both the population and productivity of labour increased. These must be reflected in the expansion of acreage.

Sugar production is an interesting example that shows the etatist inspirations of the government had started as early as 1925. In this year a state monopoly on sugar imports was established (together with

these measures were concretised in the 1930s with the implementation of protectionist measures, yielding an increase of 201.9 percent and 653.5 percent in acreage and production for the decade (see Table 11).

However, given that beet production, and more generally industrial crops, constituted only 0.4 percent and 7.7 percent of total acreage, and 6.5 percent and 12.8 percent in total production (by 1939), we need to look elsewhere if we are to understand the increase in agricultural production as such. Obviously we need to turn to the performance of cereal production, which constituted around eighty-five percent of both total acreage and production throughout the 1930s[63]. The main component of cereal production being wheat (around fifty percent of total cereal acreage and production during the decade), and barley to a lesser extent (thirty percent). Factors behind the increase in wheat production are more

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[62] Tezel, p.289.

[63] Always within the limits of the agricultural production as noted earlier, that is, omitting fruits and the like.

complex and need more attention, but first the impact of weather conditions on production and acreage trends will be evaluated.

Rainfall

An important factor that needs to be taken into account is the climatic conditions. Given that the production was not capital intensive, we are to assume that the fluctuations in agricultural production were greatly affected by rainfall. In order to have an idea about the impact of rainfall on production, data on rainfall was gathered from existing stations as reported in various statistical yearbooks, on a monthly basis. The arithmetic averages of rainfall for each station was taken in order to obtain annual data. This data was then homogenised by gathering stations according to the classification of the regions defined in the beginning of the chapter.

In order to assess the impact of rainfall on production, production figures need to be compared with rainfall figures to see whether a correlation between the two existed. Looking at the figures for the country at an aggregate level, it seems that the downturn in the year 1932 can be explained by drought. It appears that in 1927 and 1928 rainfall was also low.

However, it seems that the increases in agricultural growth do not correspond to years of relatively more abundant rainfall. This is in contradiction with the explanation of the growth by Tezel, who argues that especially the years 1936-1937 were good years in the climatic sense[64]. Thus, he says, there is no need whatsoever to seek for complicated explanations behind the high rate of growth and make conclusions with theoretical findings on the nature of peasantry-state relations. Although he does not give the way he interprets climatic conditions, his analysis is paradoxical at least for the year 1937, in which the production/employment ratio (0.95) declined in comparison to that of 1936 (1.02). It is also lower than that for the year 1938 (0.95), and is not significantly different from the year 1931 (0.92). Besides, were it so, Tezel should have depicted it in calculating trends, as he did for the drought in 1927, which he did not -nor did he adjust figures considering the drought of 1928, although he mentions it.

However, we still need to be cautious in attributing the drought of 1932to the decrease in production. Indeed, the fact that acreage also decreased shows that it could have been the result of a delayed effect of the depression. Drought should normally reflect in production

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[64] Tezel, p.351.

levels only, given that acreage is decided ex-ante.

Moreover, although it seems that there exists a close relation between the production trend and the amount of rainfall at the aggregate level, a comparison of both series at a regional level shows that we should not be content with the analysis of the aggregate data in order to draw a conclusion on the correlation between the two series. Indeed, the data in Appendix E which presents figures for production and rainfall for each region superposed, show that an explicit relationship does not exist. First, even if the rainfall trend of a region had similarities with that of country's total, the production trend does not necessarily follow. Second, although rainfall fluctuations may have been different from country's total, the production may have followed an increasing trend regardless of the rainfall.

Hence, regarding the impact of rainfall, apart from the drought in 1927 and 1928, the production trend cannot simply be related to climatic conditions, especially the increasing trend in the second half of the 1930s. Indeed, the regional data reveals that there was an increasing trend in both the ratio of production to employment which does not always correspond to particularly good climatic conditions.

Population

Variations in population are important to consider in obtaining per capita figures, and thus, the demographic context Turkey in the 1930s will be considered. The late nineteenth and most importantly early twentieth centuries constituted a long period of wars for Turkey, implying an significant decrease in population, Shorter writes, "the years 1911 to 1922 saw many Turks die in military action during the Italian war, Balkan wars, World War I and the Independence War itself, and many other persons suffered to the point of death from civil disorders and very poor living conditions."[65] This constituted a major drawback for Turkey's agricultural production which relied on labour. The structural high land/labour ratio[66] further aggravated the situation.

The recovery of the agricultural sector started in the 1920s, on the basis of a growth model based on free-trade with favourable agricultural terms of trade. Hence, throughout the 1920s, Turkey remained an importer of cereals, all the more since international wheat prices were in a decreasing trend due to the over-supply of the

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[65] Shorter, p. 423.

[66] Şevket Pamuk, *100 Soruda Osmanlı-Türkiye İktisadi Tarihi, 1550-1914*, 3rd ed. (İstanbul: Gerçek Yayınevi, 1993), p. 173; Tevfik Güran, *19. Yüzyıl Osmanlı Tarımı* (İstanbul: Eren Yayıncılık, 1998), p. 54.

overseas producers[67]. The increase of domestic cereal production in the 1930s after the recovery is much more impressive. This is to be attributed to the recovery of the labour force and an increase in the female participation in active life, that is, in cultivation[68]. On the basis of his estimates, Shorter argues that the demographic recovery not only provided a larger male labour force, but that, qualitatively, given the young age structure of the recovering population, productivity and quality were certainly higher. Moreover, he argues, as a result of the recovery of the male labour force, women had greater opportunity to participate in the labour force, hence contributing to the extension of the active population not only in the fields, but also in the home (manufacturing)[69]. Shorter concludes that "comparing four percent [annual] growth in agriculture with greater than two percent growth in labour input, the driving force of the demographic factor is apparent … Some residual remains unexplained"[70].

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[67] See Chapter One.

[68] Shorter, pp. 426-435.

[69] Ibid., pp. 430-433.

[70] He goes on: "The test of the paradigm came in the 1940s. When Turkey mobilized its manpower for war but ended up remaining neutral, the expansion of agriculture stopped." (Shorter, p. 429). One of the reasons may be sought in the economic conditions of the 1920s and 30s. If the 1920s were years of immediate recovery, the increase of production in the 1930s may also have been due to the specific peasantry behaviour in a depressive/deflationary environment (see section on the Chayanov's theory of peasantry, in the next chapter).

Shorter does affirm that four percent growth is probably a minimum and that other agricultural production than wheat must have increased at higher rates. As seen from Table 11 and Figures 4 and 5, he is right[71].

But is population enough to explain the increase? Certainly not. It did play an important role but not enough to explain the increases in production. Indeed, Shorter in assessing the impact of demographic on agricultural performance, makes use only of acreage and not production statistics. The reason for this is probably that he does not rely on production fluctuation as he says that they are too affected by weather conditions. However, it is the opinion of the author that taking production in quantity into consideration is of major importance, because it increased consistently regardless of fluctuations in the level of rainfall[72].

From 1928/29 to 1938/39 the annual increases in production and acreage was 8.4 percent and 3.7 percent. The difference between the two percent population increase and the 8.4 percent production increase is obviously more then just a residual. Moreover, figures at the regional level reflect an even greater difference (see Table 12).

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[71] Shorter also says that animal production must have increased (ibid. p. 427), which it did indeed. According to Bulutay et al's estimates, animal services used in agricultural production in 1938 constant prices increased 30.4% from 1923 to 1929 and 82.7% from 1930 to 1940.

[72] See paragraph on rainfall below.

Table 12
Variations in production, acreage and population

	Tons	Hectares	Rural population	
	1928/29-1938/39	1928/29-1938/39	Annual pop variation *	Population density (1935 census)
REGION 1	49%	48%	2,2%	16,4
REGION 2	59%	18%	2,1%	20,7
REGION 3	154%	87%	2,6%	23,7
REGION 4	48%	-8%	3,9%	12,9
REGION 5	130%	104%	4,5%	11,4
REGION 6	94%	23%	3,4%	7,8
REGION 7	50%	26%	2,1%	30,7
REGION 8	122%	13%	3,3%	16,1
REGION 9	204%	88%	1,1%	12,4
TOTAL	84,40%	36,80%	2,4%	16,2

* Annual rural population variations have been calculated crudely on the basis of the 1927 and 1935 censuses, by grouping rural population of cities according to their belonging to regional groupings as defined in the beginning of the chapter.
Source: Production and acreage figures are derived from Appendix C and D and regional population figures from various *Statistical Yearbooks*.

The discussion now turns to the rates of productivity.

Productivity Rates

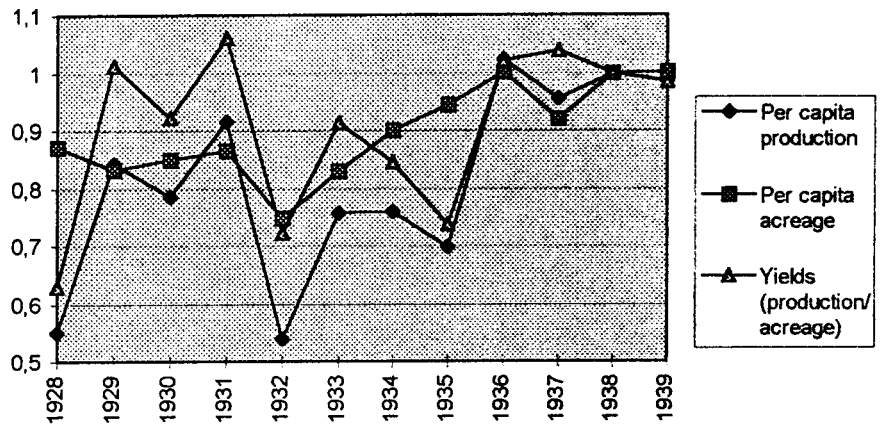
Table 13 gives indexes for labour productivity (per capita production), per capita acreage and a series of yields. Graphical representation of the table is given in Figure 5 and Figure 6 gives yields for certain goods.

Table 13
Index for labour productivity, per capita acreage and yields

Years	Per capita production	Per capita acreage	Yields (production /acreage)
1928	0,550119	0,872315	0,63064
1929	0,841795	0,832349	1,01135
1930	0,785047	0,850467	0,92308
1931	0,915704	0,863741	1,06016
1932	0,539429	0,747429	0,72171
1933	0,756351	0,829099	0,91226
1934	0,759777	0,899441	0,84472
1935	0,697572	0,944812	0,73832
1936	1,023504	1,002137	1
1937	0,955579	0,919421	1,03933
1938	1	1	1
1939	0,985493	1,000967	1
1929-1938/39	17,9%	20,2%	-1,9%

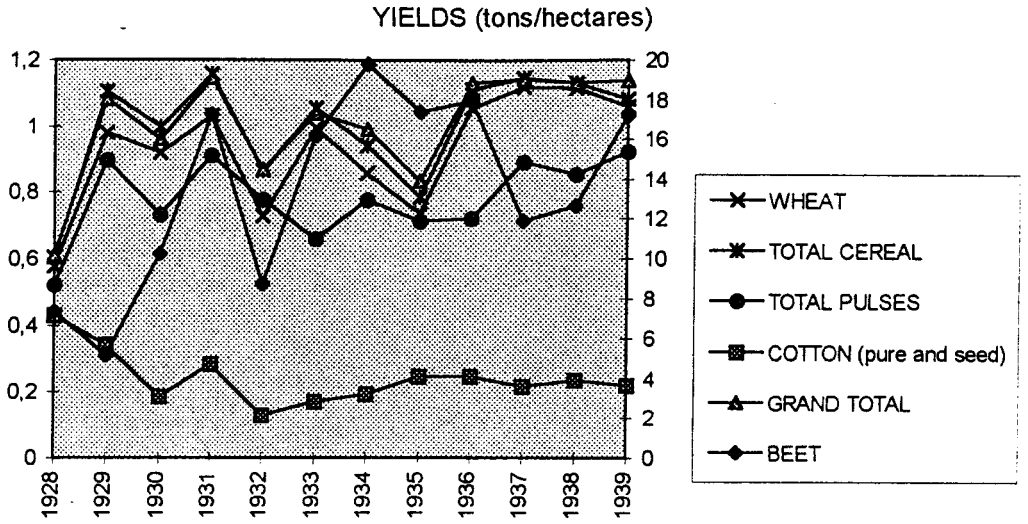
Sources: Deduced from Tezel's (p.350)indexes.

Figure 5



Source: Derived from Table 13 above.

Figure 6



Source: Appendix A.

Given the figures above, obviously productivity levels increased without exception. Acreage and production per capita reflect the same increasing trends as crude acreage and production trends seen above. As regards yields, aggregate values also reflect a minor increase. However these may be due to changing climatic conditions and/or include changes in labour productivity. These ratios will now be considered separately in order to draw out the relationships.

Land Productivity

Land productivity is obtained by the following production/acreage ratio. The first thing to note is that this is difficult to interpret in a region where

traditional means of production prevail. Indeed, in such a case, fluctuations in production, hence in productivity, are very much related to weather conditions. In the case of Turkey, technological development in agricultural production remained nearly stagnant for centuries until the 1950s[73]. However, as has been argued above, the increase in production reflects a reliable trend that cannot be attributed to fluctuations in rainfall. In addition, the correlation between annual rainfall and production levels seems to have been very low, as shall be shown later, in the part on rainfall. Hence, it is argued here that although productivity levels show a great deal of fluctuation throughout the decade, interpretation is possible.

Figure 6 gives yields for main products. Yields remained relatively stable over the decade. Two reasons lie behind this. First, land fertility could not be increased because the use of fertilisers remained marginal[74]. Second, attempts to mechanise agriculture even under etatism remained limited, mainly due to limited foreign exchange resources[75]. However, note that this was more a choice than a constraint: on the one hand

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[73] "The technology of agriculture was traditional rain-fed cultivation using animals for draft power, human labor, and unimproved land," probably because "traditional technology was sufficient to support a remarkably successful period of agricultural expansion from 1923 to World War II." Shorter, pp. 426-427.

[74] Tezel, p. 421.

[75] Ibid., p. 420.

the government opted for a balanced budget policy and on the other it set industrialisation as a priority. But what is important here, is that this was possible precisely because agricultural expansion did not "need" mechanisation to subvene for the economy's needs as argued by Shorter, hence the extensive expansion[76].

As regards the stability of yields a point is to be made on fertility. Even if we assume that yields remained relatively stable over the period, the fact that they did not decrease shows that newly utilised land for cultivation (increase in acreage) was not any less fertile than the existing lands under cultivation. This in turn implies that the lands under cultivation before the extensive expansion of agricultural production were not under the ownership of a few who would have parcelled out fertile lands. This issue of land distribution and property relationships will be discussed later at length.

At this point the nature of data needs further questions to see whether it entails any adjustment problems. Long-term wheat productivity rates are utilised to this end.

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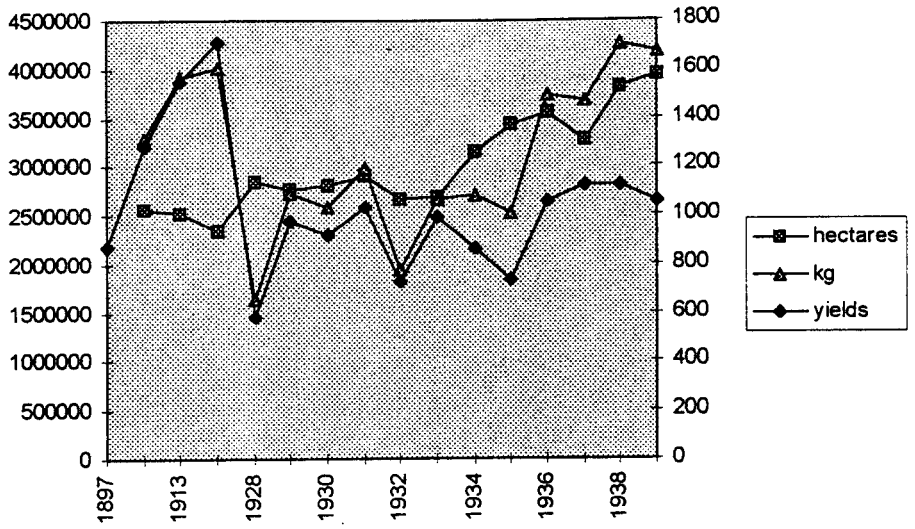
[76] Another argument could be that the level of mechanisation was hindered by the low level of wages (İsmail H. Tökin, *Türkiye Köy İktisadiyatı*, 2nd ed. (İletişim Yayınları, 1990), p. 45. However, as we shall see later, in the section on the peasantry, this may be true for only a limited number of areas, assuming a certain type of production relationship that probably does not reflect the majority of the rural population.

Figure 7
Long-term wheat production and yield



Source: Tevfik Güran, *Agricultural Statistics* (SIS), for 1909-1914 figures, Güran, p. 97, for 1897, Appendix A for 1928-39 figures.

Unfortunately, it is impossible to compare long-term productivity figures of the late Ottoman versus the early Republican periods. The Ottoman figures are obviously too high, probably due to the underestimation of acreage figures, as argued by Güran[77]. This may give a hint on the fluctuations of the productivity figures for the 1930s. Continuing with the example of wheat, Figure 7 shows that in 1936, production made a sudden "jump" of forty-eight percent. It may argued that this incident was due to an underestimation of the production as mentioned above. Regional figures also support the argument: in Regions 1, 5, 8 and 9 which constituted 21.2, 8.5, 10.7 and 18.8 percent of total wheat acreage, that is nearly sixty percent altogether, wheat production increases by

[77] Güran, p. 97.

56.6, 105.9, 36.5 and 146.2 percent respectively, and 77.1 percent altogether. This implies that considering an adjustment of the production might reveal an increase in productivity, however slight.

The other implication of underestimated production concerns labour productivity[78].

Labour productivity

Table 14
Variations in labour productivity

1928/31-1936/39	28,2%
1928/31-1932/35	-11,0%
1932/35-1936/39	44,0%

Source: Derived from Table 13.

In order to obtain a more accurate assessment of the evolution of labour productivity and understand the factors that might have affected it a closer look needs to be taken at the yearly evolution. In Figure 5 three sub-periods are seen: 1928-31, 1932-35, 1936-39. The variations between the average productivity of each sub-period is given in Table 14. Although within 1932-35 productivity did not decrease, the main break occurred in 1932. How this increase was probably caused by a delayed effect of the decrease in relative agricultural prices has already been discussed. At this point, it is possible

[78] Even if land productivity was also underestimated, this would imply indirectly that labour productivity was also underestimated also because increase in land productivity would only have been possible through increased labour productivity given that technological change did not exist in agricultural production for the period.

to argue that as a result of the unfavourable effect of the decrease in their revenues, the average productivity of the peasantry decreased over four years compared to that of the other two sub-periods.

However, what seems to be even more interesting is the fact productivity did not continue to decrease. Despite the fact that relative agricultural prices remained low, productivity actually increased[79], and increased even more in the second phase, so much so that it surpassed the level of the first phase. The increase in labour productivity in the third phase may be attributed to the demographic recovery, as argued by Shorter[80], meaning that a younger generation brought a higher quality of labour.

Although the decrease in the growth rate of productivity during the second phase created a dip in the overall increasing trend due to the burden of the depression, the impetus of the third phase may be also attributed to the second phase (other than the demographic factor). Indeed, the persistence of low prices, mostly in cereals, might have led the peasantry

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[79] Considering that there might have been an underestimation problem, the productivity might have been even higher.

[80] These calculations, based on Tezel's estimations, consider age fifteen and over as agricultural labour force. If it were lower, twelve for instance (which corresponds to births in 1922, that is, the end of the Independence War), the level of productivity might have been lower. Moreover, productivity levels after 1936 may need to be adjusted considering that production might have been underestimated in the previous phase. However, the increase in the productivity of the third phase must have occurred nonetheless.

to work even harder than it already did. That the second phase started only in 1932 also indicates that from 1930 until that date, the peasantry's effort as reflected in the productivity levels of 1930 and 1931, remained high. As such, the main conclusion to be drawn is that productivity reflected an overall increasing trend.

Per Capita Acreage

Per capita acreage reflects a much more linear trend of increase -again except for 1932. The rate of increase for the period was of 20.2 percent. Similar arguments as for labour productivity increase may explain this increase. Indeed, if the only input in agricultural production was labour force then the increase in per capita acreage could only be explained by an increase in labour productivity[81] which - as has been seen in the previous paragraph- is true. Actually the fact that per capita acreage increased *consistently* throughout the period backs the argument regarding the overall increase of labour productivity (the fluctuations, apart 1932, being attributed to rainfall fluctuations, as will be argued below).

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[81] Tezel, p. 352, argues that for 1926-1950 the increase in acreage is explained by increase in labour force of seventy percent, and that the rest is due to the "modest" amelioration in the quality of tools used in production. However, given the findings in this paer, this explanation is unsatisfactory.

If we are to recapitulate the trends and effects of productivity levels on the performance of the agricultural sector the following results are obtained. First, land productivity did not increase due to the traditional means of production. Second, labour productivity increased. Third, acreage per capita also increased mainly as a result of the increase in labour productivity. Annual increases in labour productivity and in acreage per capita were 1.8 percent and 2 percent between 1929-1938/39[82].

The discussion now turns to the reasons behind these increases. That the young age structure was one explanation has already been mentioned. However other factors should also be considered. We shall start by considering the impact of the expansion of railroads and finally that of state policy towards agriculture.

Railroads

A factor that affected the agricultural growth or the increased marketisation of agricultural production was the construction of railroads. Under Ottoman rule, railroad construction had already started; however railroads constructed during that period were mainly in the western part of the country and those connecting the

[82] We have omitted 1928, a year of low harvest.

empire to the southern provinces. All these rails passed through the more commercially-oriented regions, although not totally, because the main concerns of the state in railroad construction were political and military[83]; however compared to the rail construction under the early Republican rule the Ottoman rails did pass through the relatively more commercially-oriented areas. The main reason for this was the high expense of the investments, so much that, despite the relatively commercially-oriented nature of the regions in which the railroads were constructed, private foreign investors still needed the support of the Ottoman state (the kilometric guarantee). Hence, the costlier investments to be done for the construction of the railroads in inner and eastern Anatolia had to wait until the etatist policies of the 1930s.

Starting in the mid-1920s, the state undertook railroad construction, a program which accelerated in the 1930s. At the end of the 1930s an important part of the eastern and north-eastern regions were connected by rails. By 1939 the total rail length within the limits of the Turkish Republic was 7302 kilometres (Table 15). Fifty-five percent of this length had been constructed under the Ottoman Empire in fifty-nine years (1860-1918).

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[83] Philip Ernest Schoenberg, "The Evolution of Transport in Turkey (Eastern Thrace and Asia Minor) under Ottoman Rule, 1856-1918," *Middle Eastern Studies*, 1978.

The remaining forty-five percent was constructed by the republic in fourteen years (1926-1939), of which 86.5 percent was constructed in the 1930s (1930-1939).

Table 15
Railway construction in Turkey (1926-1939)

RAILWAYS	LENGTH (kilometres)	YEAR
TOTAL OTTOMAN EMPIRE	3998	1860-1918
Ilıca-Balya	29	1926
Samsun-Çarşamba	38	1929
Ankara-Kayseri	380	1927
Kayseri-Sivas	222	1930
Balıkesir-Alayunt	263	1932
Sivas-Samsun	402	1932
Kayseri-Kardeşgediği	187	1933
Elazığ-mainline	24	1934
Fevzipaşa-Diyarbakır	504	1935
Afyon-Karakuya	114	1936
Burdur-mainline	24	1936
Isparta-mainline	14	1936
Sivas-Çetinkaya	112	1936
Irmak-Hisarönü Zonguldak	415	1937
Malatya-Çetinkaya	140	1937
Çetinkaya-Erzurum	436	1939
TOTAL REPUBLIC	3304	1926-1939
TOTAL OTTOMAN EMPIRE+REPUBLIC	7302	1860-1939

Source: Philip Ernest Schoenberg, "The Evolution of Transport in Turkey (Eastern Thrace and Asia Minor) under Ottoman Rule, 1856-1918", *Middle Eastern Studies*.

Table 16 gives the figures for the number of trains and the net profits of exploitation.

Table 16
Number of trains and net profits of exploitation

Years	Number of trains				Net profits of exploitation
	Passenger	Mixed	Cargo	Total	
1927	53803	26117	17270	97190	
1928	54133	26913	15076	96122	
1929	62192	30380	16463	109035	
1930	62819	35271	12107	110197	
1931	61530	32086	12059	105675	
1932	60384	30808	8933	100125	
1933	43389	31170	11047	85606	
1934	42299	34658	15792	92749	7137469
1935	66712	38934	20103	125749	5043791
1936	77716	60067	34907	172690	10269878
1937	93439	61370	41759	196568	11172242
1938	102021	61815	43863	207699	8065192
1939	102977	69109	54397	226483	12776587
1929-39	65%	127.5%	230.4%	107.7%	79% (1934-39)

Source: Statistical yearbooks.

Not only did the length of railways increase rapidly during the early Republican era, but the number of trains and namely those carrying products also increased at an incredible pace, accompanied by the increase in the net profits of exploitation.

In assessing the role of the railroads in the production growth in agriculture the problem of causality relation is encountered. Indeed, the question arises of whether the construction of railroads encouraged production or if the existing increasing trend in production was stimulated by the construction of the railroads? Given the growth regime based on the transfer of agricultural surplus to the urban sector, it may be assumed that one of the reasons for the railroad construction was to facilitate this transfer in physical terms, and that given the existing internal dynamics of

the peasantry the second argument seems more likely to be true.

In order to quantify this impact the rates of growth in wheat production of the major cities in which railroads were constructed[84] were first compared with the average rate of growth of wheat production throughout the country. The results are not very appealing: between 1929-1939 the wheat production in tons and cultivated land area increased by 57.65 percent and 24.58 percent respectively for the cities and 53.62 percent and 41.9 percent for the country in total (Table 17). However, when the trends at a regional level were examined it was revealed that as such the regions through which the railroads passed mostly were regions 5, 8 and 9, which correspond respectively to Eastern Anatolia, Central Anatolia (Middle Plateau) and South-Western Anatolia. The table below gives the data for comparison.

[84] These cities include Çankırı, Kütahya, Isparta, Erzincan, Erzurum, Diyarbakır (Bismil+Diyarbakır), Zonguldak, Samsun, Sivas, Elazığ, Malatya, Kayseri, Niğde.

Table 17
Variations in production and acreage at the regional level (1929-1939)

	VARIATIONS IN PRODUCTION (tons)	VARIATIONS IN ACREAGE (hectares)
REGION 1		
CEREALS	9,00%	5,30%
PULSES	-21,10%	-42,80%
INDUSTRIAL CROPS	161,40%	42,10%
TOTAL	14,30%	63,10%
REGION 2		
CEREALS	21,40%	13,50%
PULSES	31,00%	22,10%
INDUSTRIAL CROPS	103,20%	85,50%
TOTAL	28,10%	17,70%
REGION 3		
CEREALS	104,70%	70,10%
PULSES	30,40%	20,50%
INDUSTRIAL CROPS	463,60%	115,90%
TOTAL	144,70%	72,20%
REGION 4		
CEREALS	12,40%	-22,30%
PULSES	19,70%	-3,20%
INDUSTRIAL CROPS	193,80%	49,10%
TOTAL	26,80%	-2,60%
REGION 5		
CEREALS	51,50%	124,40%
PULSES	151,80%	22,30%
INDUSTRIAL CROPS	99,70%	5,60%
TOTAL	55,70%	12,50%
REGION 6		
CEREALS	47,70%	16,20%
PULSES	61,00%	95,40%
INDUSTRIAL CROPS	171,40%	36,00%
TOTAL	49,20%	19,00%
REGION 7		
CEREALS	45,40%	34,60%
PULSES	-22,60%	43,20%
INDUSTRIAL CROPS	249,10%	156,60%
TOTAL	48,10%	38,00%
REGION 8		
CEREALS	79,60%	3,90%
PULSES	127,80%	17,30%
INDUSTRIAL CROPS	1347,70%	303,10%
TOTAL	109,10%	8,30%
REGION 9		
CEREALS	69,10%	111,10%
PULSES	9,90%	63,70%
INDUSTRIAL CROPS	318,10%	7,90%
TOTAL	78,80%	103,00%
ALL		
CEREALS	39,90%	42,50%
PULSES	23,50%	27,10%
INDUSTRIAL CROPS	198,90%	84,30%
TOTAL	49,40%	42,20%

Source: Various Statistical Yearbooks/Appendix.

The average rate of growth for the three regions between 1929-1939 in terms of their total production in tons was 81.2 percent and in terms of total cultivated land area, 75.6 percent, whereas the same figures for the country in total were 49.4 percent and 42.2 percent (Table 17). The performances of these regions ranked among the highest within the country.

Hence, it may safely be affirmed that railroads constituted an important factor in the development of certain regions, although their impact on the country's average rate of growth needs to be considered as related to the total production given that the total production and acreage of these regions respectively constituted 32.7 percent and 33.03 percent of the total figures.

The fact that production in these regions was encouraged with the construction of railroads is also consistent with the regime of accumulation of the period given that the prices of agricultural products in these regions were most probably lower than the average prices, although unfortunately the data to support this does not exist at this point[85].

Another point concerning the impact of railroads may be the extent of market integration and the nature of the peasantry's economic response. Studies point to the importance of such developments in the late nineteenth

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[85] Price data is mainly available for important cities for which we have the stock market values.

century[86]. The importance of market integration and the market integration of the small peasantry is also argued for Turkey in the 1930s by Birtek and Keyder, as has been mentioned earlier. Although these authors do not refer to the railroad policy and its impact, the argument would be consistent with their analyses. However, it is argued here that such an argument would be very difficult to defend in the case of the 1930s in Turkey.

First, the international context is altogether different in that the increase in cereal production and/or marketed surplus could not have been export-driven in the 1930s. Given the wheat surplus in the international markets in the 1920s and that trade collapsed with the Depression, the part of the Turkish peasantry involved in cereal production was necessarily domestic oriented if not family oriented (auto-consumption). Second, given the nature of a closed economy, and the state's advantage in 'playing' with the internal terms of trade, namely in agriculture/industry, it may be assumed that the persistence of regional price differentials was also 'welcomed'.

Hence, it would be more realistic to assume that even if the railroad construction in the 1930s was a means to integrate production surplus to the market, this

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[86] Michelle Burge McAlpin, "Railroads, Prices, and Peasant Rationality: India 1860-1900" and Jacob Metzer, "Railroad Development an Market Integration: The Case of Tsarist Russia" in *The Journal of Economic History*, 34:3 (September 1974).

was probably not the outcome of price advantage. That is, the peasantry was not responding to any 'price' recovery, nor did the increase in marketised production lead to the amelioration of the regional terms of trade (price convergence)[87]. The peasantry did not respond to any 'economic opportunity' (be it price recovery or state purchases as shall be seen in the following section). Railroads were a means to marketise the production surplus (which corresponds to the result of production minus the subsistence consumption), which was steadily increasing due to population recovery.

In addition, were it for any economic opportunity, railroads also would have caused regional specialisation by virtue of gains from trade, which it obviously did not. Moreover, cereal prices recovered much more slowly than those of any other agricultural production category and terms of trade remained at the disadvantage of cereal producers throughout the period (see last Table 20, Chapter Four).

Another point supporting this view is that the existing increase in the production trend that made the marketisation of the production possible, as reflected in

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[87] Note, however, that we do not have detailed regional prices. The only price series we have are those constructed by Bulutay et al. - those which we are using for our aggregate analyses-, and those gathered from Stock Exchange Markets. However these are very limited in that they concern a few cities mainly from the west, and they gather prices of differentiated products, so that there is nothing we can deduce from these as regards price differentiation because prices of a same product would merely reflect differences in quality.

Table 15, was the increase in the net profits (Table 16). Indeed, given that cereal production was the least profitable production possible, if the state were to aim to encourage its production, its profits could not have increased that much[88].

State policy

So far, a rough idea about the state policy has emerged following the depression, and it has been possible to assess how much the state did or did not encourage cereal production. First, in Chapter Two, it was seen that exports could not have been the reason behind the increase. And second, in the section on the policy of railroad construction above, it was seen that, again, it is unlikely that railroad construction particularly encouraged the small peasantry in its cereal production.

It has been argued that the state undertook measures and instituted the necessary infrastructure in order to make use of the excess supply, be it clearing arrangements or the construction of railroads.

The three points that need be to considered in order to complete this assessment on the impact of state policy

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[88] Complaints about the high tariffs existed in the early 1930s. İlhan Tekeli and Selim İlkin, *1929 Dünya Buhranında Türkiye'nin İktisadi Politika Arayışları* (Ankara, Orta Doğu Teknik Üniversitesi, 1977), p. 196. It is quite probable that this situation persisted throughout the decade.

on agricultural production are price supports, wheat purchases and sales programmes, and fiscal policy.

Price support

The regime of accumulation adopted in the period was that of surplus extraction from the agricultural sector to be transferred to the urban sector. As such, it is consistent that the state did not undertake a programme of price support or even that of an extension of a credit mechanism.

In order to assess the price policy of the state in agriculture we have used data found in Atasağun[89] and compared it with the price series in Bulutay et al.

Table 18
Wheat market and state prices

Years	Prices in Bulutay et al.	Purchase prices	Sale prices	Distribution prices
1932	4,29	4,10	4,54	
1933	3,9-4,29	3,70	3,84	
1934	3,8-4,25	3,52	4,51	4,55
1935	3,8-4,25	4,07	5,82	5,83
1936	3,8-4,25	4,51	7,21	5,02
1937		4,85	5,30	6,21

Sources: Bulutay et al for the market prices (first column), Atasağun (1939, pp. 306-307) for the state prices (the other three columns).

It appears from Table 18 that throughout the period, purchase prices remained lower, and sale and distribution prices remained higher than market prices. This implies

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[89] Yusuf Saim Atasağun, *Türkiye Cumhuriyeti Ziraat Bankası, 1888-1939* (İstanbul: Kenan Basımevi ve Klişe Fabrikası, 1939).

that there was definitely no state support on the basis of price incentives to wheat production, that is to the small peasantry, unlike what has been argued by Keyder and Birtek. Moreover, the quantities of purchases involved compared to total production were also very low (an average of three percent from 1932 to 1937), as shown in Table 18. At the most, the state intervention in terms of prices may have constituted a bottom price.

These facts are consistent with the analyses in this paper, in that the state's aim was by no means to promote the small peasantry whatsoever, that it could not allow itself to enter into expansionist spending, in accordance with the tight budgetary policies. Purchases were at the most, again, a means to put a hand on the excess supply within the limits of necessity (exports and provisioning the urban population).

Credits

Quataert writes that, "the agricultural-reform programs launched by the Hamidian government were efforts to create a more productive and profitable agriculture, one directed toward the export market."[90] This assessment of the Agricultural Bank's credit policy is also true for

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[90] Donald Quataert, "Agricultural Reform in Ottoman Turkey," *International Journal of Middle Eaastern Studies*, vol. 6 (1975), p.211.

that pursued during the Republican period.

Table 19
Regional allocation of Agricultural Bank loans

Regions	Amount of credit (TL)	%	Number of agriculturer families	%
I	9664000	12,7	355258	17,6
II	24040000	31,5	377643	18,7
III	7789000	10,1	193976	9,6
IV	8890000	11,7	140158	6,9
V	2722000	3,6	105436	5,2
VI	1022000	1,3	107738	5,3
VII	11926000	15,6	333978	16,5
VIII	3668000	4,8	195705	9,7
IX	6702000	8,7	209794	10,4
Total	76423000	100,0	2019686	100,0

Source: Atasağun for the credits and the 1935 Population Census in Statistical Yearbooks for the population.

As seen in Table 19, the regional allocation was also unequal under the etatist policies of the 1930s. Regions two and four, which correspond to the Agean and the Mediterranean coasts, were favoured at the expense of the other regions when compared with the rural population[91].

This, again is consistent with the profit maximisation programme of the state. Although trade had decreased, the state was looking to increase exports in order to increase foreign exchange revenue. As cereal production increased as a result of the inner dynamics involved, and that commercial agriculture, driven by

[91] Quataert's findings are in the same way. He affirms that Aydın (Agean coast) and Adana (Mediterranean coast) were the most favoured cities in Anatolia (Ibid., Table 1, p. 227).

profit, needed 'help', the credit policy was driven accordingly.

Three further characteristics appear at the aggregate level. First, credits were mainly, if not solely, short-term in nature[92], which was highly inconvenient for peasants who suffered a great loss of purchasing power with the dramatic price decreases. Second, most credits could only be received under a minimum mortgage guarantee, which most peasants could not afford. Third, and perhaps most importantly, fifty percent of the Agricultural Bank's credits were accorded to non-agricultural activities (as they had been during the Ottoman Empire)[93].

Fiscal policy

Fiscal policy is considered at length in the following chapter where an assessment is made on its impact on peasantry behaviour and production. Here, only the abolition of the tithe 1925 is discussed. The

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[92] Atasağun.

[93] For the agricultural support under the Ottoman Empire, Quataert affirms that "the widespread, non-agriculturally related services that bank funds and personnel rendered the Ottoman administration resulted from the government's unwillingness and inability to commit itself fully to agricultural reform." Quataert, p. 225. Moreover, looking at the co-operatives, similar deficiencies can be observed. Not only were the activities within the co-operatives almost exclusively limited to commercial agricultural production, but the rate of membership was also limited. This rate, calculated as the number of members divided by total rural population, increased throughout the period to attain one percent. Calculated on the basis of Atasağun's findings.

increase in other agricultural taxes, such as taxes on land and animals and that on consumption goods, were made in order to compensate the loss endured from the abolition of the tithe. Although the reforms can be assessed as a shift of the burden from the rural to the urban areas, that other agricultural taxes also increased shows the importance of agricultural production and that the state could not simply abolish all taxes from this sector.

Adding to the considerations above that new credit loans from 1931 to 1935 decreased[94], and that the share of agriculture in total budget expenditure remained below three percent (with the exception of 1936, four percent)[95], it is obvious that etatism was absent in the agricultural arena.

The anti-expansionist nature of the economic policies obviously could not result otherwise. The state had to minimise risks and maximise production. As such, the nature of the rural production helped the state in minimising its expenditure in subsistence production, and in not modernising the small peasantry and integrating it to the market. The latter, by virtue of its inner dynamics, could engender an important production increase - as will be seen in the following chapter.

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[94] Statistical Yearbook (Republic of Turkey, State Institute of Statistics, 1940/41) p. 455.

[95] Tezel, p. 447.

The state probably did help the commercial agricultural production to increase, but this was because it was seen as a relatively better source of income and because subsistence production increased anyhow. As such, the contribution of state policy in the production of agricultural increase can be noted in the performance of industrial crops, namely in sugar beet and anise. The rates of growth in both production and yields reflect spectacular increases, however; looking at the absolute figures, it is clear that prior to the 1930s, the production of industrial crops was very limited and that the high rates of growth simply reflect the beginning of specific industrial crop production meant to be used in the domestic industry that was being primarily built upon backward linkages as related to the agricultural sector. As such, the beginning of a more systematic production of a few crops gave birth to high figures (whereas before the 1930s, the production of these crops had been rather sporadic). However, as industrial crops did not account for much of the total production, the increases in these products should not be interpreted as an important factor contributing to the overall increase in agricultural production.

Surely state coercion and discourse flattering the peasantry and attempts at educating them, together with the newly constructed 'national unity', was other factors

that probably affected the stability of the production and socio-political context.

However, later developments show that the actual neglect of the small peasantry, of the great majority of the population, had its costs. First, although Turkey did not enter the Second World War, the policies implemented followed the state of a war economy, where the inflationary environment contributed to an accelerated process of peasant differentiation. Some were enriched thanks to the inflation while others lost what little they had[96].

As will be argued in Chapter Four, concerning the small peasantry, the early Republican period was not much different from the late Ottoman Empire. The legacy of the small peasantry remained. In discourse, it was hoped that the peasantry would be modernised and educated. However this modernisation programme failed in terms of the economic development of the subsistence producers, precisely because the latter had the dynamics to sustain its growth, despite the attempts/achievements of the Land Reform (1945). Moreover the prevalence of the small peasantry as such, and the absence of a significant state support in the agricultural sector, was consistent with the industrialisation programme based on austerity. As

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[96] Şevket Pamuk, "War, State Economic Policies and Resistance by Agricultural Producers in Turkey, 1939-1945," in F. Kazemi and J. Waterbury (eds.), *Peasants and Politics in the Modern Middle East* (Florida: Florida International Press, 1991).

such, with the end of the Second World War and a new international order, the whole project collapsed and the peasantry's fate was left to right-wing populist policies.

This chapter revealed that the sources of agricultural growth were neither the outcome of particularly favourable climatic conditions, nor to any kind of voluntarist policy. In many instances, the importance of the internal dynamics of the agricultural sector based on the structure of small peasantry has been mentioned as the main factor behind growth. The following will chapter will treat this issue. As such, the assumptions under which the processes implied by the internal dynamics can lead to growth will be analysed and be compared with and applied to the Turkish case.

CHAPTER IV

THE PEASANTRY AS A SOURCE OF GROWTH

If state policies could not constitute a source of growth and technology remained limited to its traditional nature throughout the period under consideration, there is one last point that needs to be considered: the nature of the peasantry and its behaviour.

It was mentioned in the second chapter that the age structure of the increasing labour force was insufficient to explain the increase in labour productivity. The extensive use of labour causing increase in labour productivity needs to be understood. Chayanov has analysed the pattern of peasant behaviour, where the peasantry is defined in terms of small producers. In this section a summary of Chayanov's main arguments, and in which context they are defined and applied, is presented, followed by the case of Turkey, and to see to what extent the assumptions on peasantry are applicable, also taking into consideration the conjuncture of the 1930s.

In the aftermath of the Independence War, along with the discussions on the industrialisation process (see Chapter Two), a literature on the agricultural sector flourished. The literature was mainly an extension of

Marxist theories on agriculture, the peasantry and on their linkages with the processes of industrialisation and of the transition to socialism[97]. Rather than enter into a discussion of these mainstream debates, an author who has remained at the side of the mainstream thought deserves our attention.

Chayanov's work involved the analysis of peasantry behaviour, as Kerblay writes,

> Chayanov's main contribution was firstly to provide a theory of peasant behaviour at the level of the individual farm, and secondly to show that at the national level peasant economy ought to be treated as an economic system in its own right, and not, as the Marxists claimed, as a form of incipient capitalism, represented by petty commodity production. In Chayanov's view peasant motivations are different from those of the capitalist; they aim at securing the needs of the family rather then making profit. That is why a central role is given in Chayanov's theory to the notion of balance between subsistence needs and a subjective distaste for manual labour (dis-utility) for this determines the intensity of cultivation and the size of the net product.
>
> Chayanov proceeds to show that the prevailing concepts of classical economics as well as the marginalist theory explaining the behaviour of a capitalist entrepreneur do not apply in a peasant family which depends solely on the work of its own family members. For in this type of farm the decreasing returns of the value of marginal labour do not hinder the peasant's activity so long as the needs of his family are not satisfied; that is, when an

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[97] Kautsky's and Lenin's works may be cited as the most popular ones. See Theodor Shanin and Hamza Alavi, "Peasants and Capitalism: Kautsky on 'The Agrarian Question'," in Theodor Shanin, *Defining Peasants* (Oxford: Basil Blackwell, 1990).

equilibrium has been achieved between needs and the drudgery of his effort.[98]

This implies that labour product is the ultimate source of income and that the motivations behind it are not determined by the classical utility maximisation under budget constraint, but by the satisfaction of needs versus the drudgery of labour. The theory also implies that the family is to be considered not only as a production unit but equally as a consumption unit. This in turn has the following implication: if the major concern of the family is assuring survival, that is, consumption, and not profit, in times of depression rather then reclaiming greater income - income prior to the depression which decreased due to lower prices - , the family will increase its labour product, that is, its efforts, in order to earn its level of income prior to its depreciation. As such, labour supply also reflects the degree of "self-exploitation," a term which is equivalent to Kautsky's "underconsumption" and Lenin's rural "plunder of labour"[99]. Note that underconsumption implies that the peasantry's propensity to consume is low, all the more lower in times of distress/depression as self-exploitation increases. Hence a double source of

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[98] Basile Kerblay, "Chayanov on the Theory of Peasant Economies," Ch. 25 in Theodor Shanin (ed.), 2nd ed., *Peasants and Peasant Societies* (Oxford, New York: Basil Blackwell, 1987), p. 177.

[99] Shanin, *Defining Peasants*, p. 324.

transfer is created to the urban economy, first, by the increase in production, and second, by the transfer of demand.

As regards the quantity of labour itself, it is mainly determined by the composition of the working family. This is a central argument of the theory that involves the demographic structure of the family. Chayanov uses a ratio of consumers/producers obtained by the age structure of the family, and argues that during the first fifteen years of its existence, the ratio increases as opposed to the later years.

> Only by taking the family through the full extent of its development starting at birth and finishing at death, can we understand the basic laws of its composition. If we take it that a surviving child is born every third year in a young family… we should try to explain how the relationship of the family labour force to its consumer demands changes as the family develops.
> We note a rapid increase in the proportion of consumers to workers. In the fourteenth year of the family's existence, this proportion reaches its highest point, 1.94. But in the fifteenth year the first child comes to the aid of the parents when he has reached semi-working age and the consumer -worker ratio immediately falls to 1.64… In the twenty sixth year of the family's existence the ratio falls to 1.32… Since the working families' basic stimulus to economic activity is the necessity to satisfy the demands of its consumers and its work hands are the chief means for this we ought first of all to expect the family's volume of economic activity quantitatively to

correspond more or less to these basic elements in family composition.[100]

The assumptions that underlie this theory need to be systematically considered. Alavi summarises the distinctive nature of peasant production considered as both a unit of production and consumption in two points.

> Firstly, members of the peasant family participate in the division of labour on the family farm for which they are not paid either a time wage or individually on the basis of piece work. The benefits as well as the tasks of the peasant farm economy are shared by the whole family, on the basis of generalised reciprocity that is all produce goes into a common pool from which the needs of the family as a whole are met, under the authority of the family patriarch. Secondly, peasants produce a large part of their own subsistence requirements as well as some inputs, on the farm. To that extent they are independent of the market and have a capacity to survive, to a degree, in the face of adverse market conditions. The second feature distinguishes the peasant economy from that of urban petty commodity producers (craftsmen), who must buy their inputs from the market and sell their products likewise, before they can secure their subsistence. It is argued that peasant responses to changes in market conditions are different from those that are expected by economic logic.[101]

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[100] A.V. Chayanov, *Organizatsiya krest' yanskogo khozyaitsva*, (Moscow: 1925), p. 60. Translated as *The Theory of Peasant Economy*, D. Thorner, R.E.F. Smith and B. Kerblay (eds., Irwin Pub., 1966). Stated in Kerblay, "Chayanov an the Theory of Peasant Economies," Ch. 25 in Shanin (ed.), *Peasants and Peasant Societies*, p. 179.

[101] Hamza Alavi, "Peasantry and Capitalism: A Marxist Discourse," in Kerblay, "Chayanov an the Theory of Peasant Economies," Ch. 26 in Shanin (ed.), *Peasants and Peasant Societies*, pp. 185-186.

This definition implies that production (peasant production) is barely determined by market conditions because first, inputs (labour and land) belong to the producers, and second, production is consumed by the producers (subsistence production/consumption, as opposed to commercialised crop producers).

Surely the existence of small (family) private ownership, that is, the absence of waged labour and the low degree of marketisation are heavy assumptions. Thorner argues that a low population density, that is, a high land/labour ratio, needs to be further assumed for the existence of such an economy, so that land is available, and that wage labour is rare because it is too costly[102]. A purified/closed conception of a production unit may seem unrealistic as such.

Nevertheless, this paper argues, in the case of Turkey, although the peasantry may not exactly fit Chayanov's description, most of its features will allow us to make its behaviour more intelligible. Indeed, the peasantry may be considered detached from the rest of the economy but still be a pertinent tool of analysis helping us understand the inner dynamics of a part of the economy. Understanding the behaviour of an essential part of the economic population then may allow us to construct

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[102] Mentioned in Kerblay, "Chayanov an the Theory of Peasant Economies," ch. 26 in (ed.), *Peasants and Peasant Societies*, p. 183, and in Shanin, *Defining Peasants*, p.321.

linkages thereafter according to the economic and political context/environment of a specific country.

The Turkish Peasantry

Before giving a summary of the debates on the peasantry structure that illuminated debates concerning the fate of the Turkish peasantry in the early years of the Republic, mention must be made of the difficulty in deciding between the different arguments as empirical evidence is lacking for the first three decades of the Republic.

Peasantry differentiation

We shall start with the arguments that emphasise the idea that the majority of the peasantry did not own enough land for survival, and hence was subjected to market fluctuations through land rents and unofficial credit mechanisms. As in all underdeveloped agricultural economies the problem of credit existed in Turkey in the 1930s. Credit was assured by a mixed group of merchants, landholders or individuals specialised in credit activities. Often, one person assured all activities at the same time.

The principal work of reference on this issue is İsmail Tökin's book[103] which is mainly an analysis of Turkey's rural economy from the perspective of orthodox Marxism. Tökin rightly differentiates between the "autarchic" peasantry, and the peasantry more open to the market and market fluctuations. He mainly attributes the opening of the peasantry to the market to the construction of railroads, apart from those living in coastal areas which had "traditionally" been open to foreign demand. Accordingly, he divides peasant behaviour as subsistence-oriented and market-oriented, the first aiming to assure its consumption, the second driven by profit. The first corresponds to the Chayanovian type of peasantry.

Although Tökin gives a theoretically precise description of the peasantry that he calls "autarchic"[104], and mentions that the dynamics of self-production/self-consumption within the family unit in both terms of agricultural production and some manufactured products[105], he does not further investigate the possible dynamics of such an economic unit as related to the depression so as to understand the reasons behind the growth trend. Instead, in terms of dynamic analysis, he emphasises the devastating effects of the depression through the market

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[103] Tökin.

[104] Ibid., pp. 22-25.

[105] Mainly clothing. Ibid., p. 22.

mechanism -be it credit burden or worsening purchasing power due to deteriorating terms of trade. As such, he devotes the second and third parts of his book to the different types of differentiated peasantry and to the different types of land ownership.

The differentiated peasant is the peasant who because of impoverishment had to sell his land and start to sell his labour. Hence appear two antagonist groups of peasants: the worker and the entrepreneurial land owner[106]. This type of relationship is mainly said to exist in cash-crop producing areas such as Adana for cotton and the Aegean coast for fruits and tobacco. Tökin goes on to define three types of agricultural worker: full-time workers who own no land at all, peasants who own land but go to work in order to earn money but who long to return to their land, and seasonal workers who also own land[107]. As such the last two types of workers still have ties to their land.

Another type of production relationship is sharecropping. Tökin defines the different types of sharecropping, the typology of which resembles that given for workers. Instead of giving a wage, the landowner rents his land and in exchange asks for a certain percentage of the sharecropper production, from fifty to

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[106] Ibid., p. 135.

[107] Ibid., p. 136.

seventy-five percent, depending on the population density and primarily on the rate of profit, that is, the nature of the production. Here, as in the case of the worker, the sharecropper could also own a small amount of land or none. In the latter case, he was given only fifteen percent of what he produced, and this meant a worse situation than the landless worker who, thanks to his wage, could guarantee a minimum wage and not be submitted to fluctuations in production[108].

If an overall summary of Tökin's findings is to be given, dramatic decreases in agricultural prices decreased the peasants' purchasing power and this not only made production more difficult but also increased the credit burden. Thus, the vicious circle obliged poorer peasants to sell their lands and to become workers or sharecroppers, that is, it started the differentiation process. This in turn caused land ownership to be concentrated among the richer farmers.

Tökin shows that the effects of the depression were mostly felt in commercialised production[109]. The examples of credits accorded by usurers at high interest rates that he reports are from commercialised areas and concern market-oriented production[110].

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[108] Ibid., p. 191. However, in the case where prices decreased wages also decreased, so a sharecropper with a good production level could find himself in a better situation.

[109] Ibid., p. 143-151.

[110] Ibid., pp. 146-149.

Despite the emphasis put on the differentiated peasant versus the landowners and the burden of the depression on the former, Tökin allows that the data to assess the extent of such relationships in the 1930s does not exist[111]. This is a point of major importance. Moreover, as mentioned above, he affirms that these types of relationships were limited to certain areas. Finally, most of the examples he gives are from those areas and concern cash-crop production; he neglects the analysis of cereal production which affected a large number of peasants.

Surely, there are several reasons for this. First, that observations are limited in time. Second, the value of the reports is weakened given that he puts the emphasis on cash-crop production where profit-making is involved, and where a group of producers which would have greater claims are opposed to a group of peasantry subjected to their claims and loss of profit. Third, if we add the theoretical framework that he adopts we clearly see that it is also in his interest to put emphasis on the antagonisms between a profit-maximising capitalist group which owns the land versus a group of poor peasants that becomes more and more differentiated because of the depression, having to work for less wages (despite the high land/labour ratio) or share a greater

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[111] Ibid., p. 139.

part of their production.

Finally, Tökin and the other members of the Kadro (a grouping of the intellectual elite of the Republican Party under the one-party system) were to a great extent originally urban theoreticians, most of whom had been to the west or to the Soviet Union for studies. They were thus not always sufficiently familiar with the practical problems and realities of the rural world in Turkey.

Tökin's work is mentioned here as the most symbolic of those reflecting a certain type of analysis emphasising the deterioration of the peasantry's situation and its differentiation and which has been developed or followed by others on similar grounds[112]. Obviously, for the reasons stated above, their analyses and conclusions should be used cautiously.

What is important in these authors' conclusions is that they emphasise that the persistence of low agricultural prices, and thus the differentiation of the peasantry, allowed the price scissors mechanism to work in favour of industrialisation, in accordance with the state's aim to create a new national bourgeoisie (urban and rural).

While these analyses do have explanatory strengths, they are limited by a time and space horizon. Prices did

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[112] Other authors such as Hatipoğlu; members of the Kadro movement (Şevket Süreyya Aydemir, Vedat Nedim Tör, Doğan Avcıoğlu et al.) to which Tökin also belonged; Silier and Kazgan also follow Tökin's conceptions and reach similar conclusions on the dynamics of peasantry's in the 1930s.

decrease dramatically with the depression, and this undoubtedly worsened mainly the situation of peasants producing for the market. Some probably lost their lands and became subjected to landowners who, driven by profit maximising concerns, engaged this more or less differentiated group of peasants at very low wages[113]. However this is merely one side of the story because a greater part of the increase in agricultural production in the 1930s is observed in cereals, and this implies a thorough analysis of the subsistence production.

The Small Peasantry and Subsistence Production

Returning to cereal production statistics, and more specifically to those of wheat, it will remembered that the overall trend of the 1930s was that of increase. The part of subsistence production in the 1930s-and in the 1920s for that matter- is impossible to quantify as been seen earlier. However, some parallels may be drawn from the works on the rural sector of the Ottoman Empire, in order to gain an idea of the developments in the early Republican period.

As mentioned, the nineteenth century Ottoman rural landscape was characterised by a high land/labour ratio, that is, a low population density. Similarly to Tökin's

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[113] Tökin, p. 45, 191, 197.

analysis, production composition and relations depended on the geographical proximity of the areas to transportation facilities and on the population density[114]. Hence, despite the opening of Ottoman agriculture to international trade and the greater marketisation of agricultural products, the prevalent form of production relations was that of small peasantry similar to that described by Chayanov. As such, a study connected on a certain number of areas under the Ottoman rule in the late nineteenth century shows that land and revenue distributions were egalitarian on the whole[115]. This implies that the landless population constituted a minority.

Güran also lists the burdens (expenditures) that weighed over the peasantry as inputs, consumption and taxation. The extent of these expenditures depended on the nature of the production -that is, the size of the production unit and the composition of the product (the two being interrelated). It appears that the cost of producing cotton or rice was respectively 2.7 and 1.5 times higher than that of producing wheat[116]. We know that the cotton and rice are mainly market-oriented products which follow a profit-maximising rationale, as opposed to

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[114] Güran, pp. 79-81.

[115] Ibid., p. 118, 123.

[116] Ibid., pp. 90-91. Although the figures are taken from reports limited in time and in space, we believe they do give a reliable idea on a comparative basis.

wheat production. Obviously the depression would have had a more devastating effect on market-oriented production, which on top of the theoretical arguments had higher costs of production.

All these make it more understandable that in market-oriented areas poorer peasants could be more easily left landless, that in such areas even larger landowners could find themselves in a more difficult situation than subsistence producers, and that farmers whose production expenditures mainly consisted of wage payments needed to decrease wages by virtue of cost minimisation; hence, landless workers and sharecroppers found themselves in a worsened situation.

Add to these the problem of usury -which, we are unable to quantify, given the lack of data as in the case of land distribution and other specific rural issues-, the poorer peasants were sure to be worse off, as their eventual debt burden increased and they were faced with the decrease in their purchasing power.

However, here again the subsistence producers having lower costs and being less market-oriented could more 'easily' protect themselves, all the more if we assume that they were less subjected to usury, needs to be emphasised.

However, before applying this model to the 1930s, we need to question its degree continuity. As such, the

possible transformations the rural structure underwent in the 1920s need to be taken into consideration.

The 1920s were mainly characterised by recovery until 1926. The drought in 1927 and 1928 halted growth. The factors that might have affected the production relationships can be summarised as having been the open economy, the population losses and the fiscal policy.

Open economy implies market-oriented production in which domestic producers who respond to international demand are favoured. As export-oriented commercial agricultural production was assured by large landowners, these were the essential gainers of the 1920s[117]. However, this does not necessarily imply that the rest of the rural population involved in commercial production suffered. Indeed, favourable terms of trade must also have benefited workers and sharecroppers involved in market-oriented production. However, subsistence producers probably comparatively had less to gain during this period, all the more since world cereal prices decreased during this period.

In the aftermath of the Independence War, with the deaths, forced expatriation and population exchange with Greece, Turkey's population lost most of its non-Muslim inhabitants and its overall population decreased from seventeen to twelve million. Although the Civil Code of

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[117] Faruk Birtek and Çağlar Keyder, "Türkiye'de Devlet-Tarım İlişkileri, 1923-1950," *Birikim*, 22 (1976).

1926 attempted to establish an institutional set-up for private ownership, this proved unsuccessful[118]. However, the general belief is that most lands had been plundered, especially after the population exchange with Turkey[119]. Nevertheless, this plunder has proceeded de facto, meaning that state policy did not encourage this process[120].

The final point to be mentioned is the fiscal policy. The Ottoman state's principal revenue was the tithe (in this sense it was a 'fiscal state'). The Republican state abolished the tithe in 1925. This is a very important point, because it meant ten percent of production surplus left to the peasantry[121], and almost thirty percent less in the state's budget. As a counterpart, taxes on consumption goods were increased or established and thus the tax burden was passed from the rural to the urban population. On the whole, the peasantry was far better off without the tithe, for the

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[118] Çağlar Keyder, "Türkiye'de Tarımda Küçük Meta Üretiminin Oluşumu" in *75 Yılda Köylerden Şehirlere* (Istanbul: Tarih Vakfı, 1999), p.170.

[119] Hinderink and Emine Kıray *Social Stratification as an Obstacle to Development* (New York: Praeger Publishers, 1970), pp. 18-19; Kemal Arı, "Türkiye'de Mübadele Dönemi Toprak Mülkiyeti ve tarımda Değişim" in *75 Yılda Köylerden Şehirlere* (Istanbul: Tarih Vakfı, 1999); Çağlar Keyder, *Dünya Ekonomisi İçinde Türkiye*.

[120] Arı, p. 104.

[121] Although the tithe was ten percent of the production, it could reach much higher rates in some regions. Ömer Lütfi Barkan, "Osmanlı İmparatorluğunda Öşür ve Aşar," *İslam Ansiklopedisi* (İstanbul: 1963, pp. 485-488), reported from İzettin Önder, "Aşar'ın Kaldırılması ve Tarım Kesimine Uygulanan Vergiler" in *75 Yılda Köylerden Şehirlere*.

further reason that the tithe had made them dependent of the *mültezims* who collected the taxes. *Mültezims* not only tried to get the maximum production out of the peasantry in order to reap a maximum profit, they also lent credit at high interest rates. As a consequence of the abolition of the tithe, the small peasantry may have had the occasion to marketise its 'new' surplus by planting export-oriented products, as argued by Birtek and Keyder[122].

However, this explanation is not straightforward. First, the extent of the peasantry's credit burden at the time is unknown. Second, two years after the abolition, in 1927 and 1928, there were droughts, and then the depression; these undoubtedly constituted important obstacles to this process[123].

Other taxes were increased or newly implemented following the abolition of the tithe: taxation on animals, on land, and on transportation. These taxes were naturally to the disadvantage of all the peasantry, and more especially to the small peasantry, although they probably did not affect the latter much. The share of these tax revenues in total budget revenue was three

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[122] Birtek and Keyder, *Türkiye'de Devlet-Tarım İlişkileri*; Keyder, *Dünya Ekonomisi İçinde Türkiye*, p. 43.

[123] We know to what extent agricultural exports were hit by the depression. As to the years 1925-29, Turkey's external terms of trade already starts declining (more than twenty percent) as well as the volume of exports (19.5%), calculated from Keyder, *Dünya Ekonomisi İçinde Türkiye*, p. 103, 113.

percent for the land tax, 5.9 percent (1925-30) and 5.2 (1931-39) for the animal tax, and four percent (1926-29) and two percent (1930s) for the transportation tax[124]. The latter could also be paid in nature; that is, by four work days in the 1920s and eight in the 1930s.

These were the direct taxes on agriculture. Other taxes, namely on consumption goods, were increased, and this also affected rural incomes.

How can the overall effects of the taxes be assessed for the 1930s? That the abolition of the tithe cannot easily be considered to have increased the marketisation of the small peasantry in the second half of the 1920s has already been mentioned. As for the 1930s, given that prices decreased, the small peasantry probably shifted even more to subsistence production. At this point, the abolition of the tithe probably eased this shift because they were "free" to keep the surplus thus created. As for the other direct taxes they must have weighed more heavily; however, given that the taxes were not very high, they may not have dismantled the small peasantry to a great extent, although it is not possible to assess the impact precisely.

The transportation tax reveals an important point: its share in government budget decreased. This may have been a consequence of the depression. Indeed, the

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[124] Tezel, pp. 438-442; Önder.

decrease in the purchasing power, and the retreat to subsistence production, may have led the peasantry to opt for working instead of paying the transportation tax (because railroad construction was given an impetus in the 1930s). This is consistent with Chayanov's theory of self-exploitation.

As for the indirect taxes, following the retreat of the small peasantry from the market and the increase in auto-consumption, it is possible to argue that the deteriorating effects of these taxes could be circumvented, especially during the hardest years of the depression.

Hence, the overall fiscal policy can not be solely evaluated on the basis of the abolition of the tithe and the argument that it favoured the peasantry. The aim in this policy was to dismantle the landed rural group so that it would not constitute a threat to the political monopoly of the state. Moreover, one of the new Republic's objectives was to constitute a modern state, no longer fiscal, in which economic development was given priority, especially given that the economy had to recover from wars; the abolition of the tithe would not only increase product circulation (marketisation) in the economy but also monetary circulation (monetisation) -as the tithe was a tax collected in kind. Hence, it may be deduced that the state was not seeking any coalition of

any sort with the different rural groups; its aim was to *minimise political rivalry and maximise production.*

If we are to recall Birtek and Keyder's thesis on state and peasantry relations in the first two decades of the Republic they argue that the aim was to shift production in the market. The evidence that they put forth relies on two facts: the abolition of the tithe and the state wheat purchases. We have seen that the former is a possible argument; however, considered as a whole, the fiscal policy does not necessarily lead to the conclusion that the state was in some kind of a coalition with the small peasantry. As to the wheat purchases, as will be argued in a later section, their extent was very limited in quantity as well as in price. The relationships between the state and the different rural groups will be brought up again below.

The aim in this section has been to show that the small peasantry, which had constituted the majority of the rural population since the Ottoman Empire, was neither terribly differentiated, nor integrated totally to the market by fiscal policy. If we are to understand the increases in production and labour productivity levels we need to rely on the persistence of the small peasantry which was able to survive by being able to return to its autarchic nature in hard times, and that if exploitation existed it was in the form of self-exploitation.

As such, it is argued here that the fluctuations in production and productivity levels can be to a great extent explained by peasantry behaviour[125]. The apparent low levels of production and productivity rates between 1932-35 can thus be attributed to the fact that auto-consumption increased. Even in the case where some peasants were obliged to become wage labourers or sharecroppers -mostly part-time-, this is not necessarily a sign of differentiation. Indeed, although a peasant may not own a piece of land large enough to provide his subsistence, or the means to feed his animals, becoming a sharecropper or a worker may still be seen as a means to gather income for his family which would not cause a differentiation.

As for the second half of the thirties, the phenomenon is even more interesting. Here, although cereal prices had decreased more than any other agricultural product's price, the recovery was also slower (Table 20), meaning that the supply elasticity of cereal production remained low throughout the decade.

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[125] A study conducted on Indian farmers in the state of Haryana at the end of the 1960s and beginning of the 1970s shows that "labor on small farms is employed thirty-six percent beyond the optimal defined by profit maximization at market prices, dissipating returns on fixed factors of production," in Michael R. Carter, "Identification of the Inverse Relationship Between Farm Size and Productivity: An Empirical Analysis of Peasant Agricultural Production," *Oxford Economic Papers,* 36 (1984) p.144.

Table 20

Price and quantity variations of different agricultural products

	Price variation in percentage			Quantity variation in percentage		
	1929-33	1933-39	1929-39	1929-33	1933-39	1929-39
Cereals	-73,4	48,6	-48,3	-5,1	48,2	40,5
Dry legumes	-82,3	66,6	-47,0	-21,6	33,5	4,6
Ind. crops	-63,4	64,3	2,5	-15,6	89,6	60,0
Fruits	-25,3	56,1	69,9	19,8	78,3	113,6
Fresh legumes	-67,5	54,0	-29,3	-2,5	61,2	57,2
Total	-67,5	54,0	-29,2	-2,5	61,2	57,2

Source: Bulutay et al., derived from tables in current and constant (1938) prices.

Here again, the theory of the small peasantry would help us understand the 'paradox'. Taking the consumption/production ratio defined by Chayanov and Shorter's analysis of Turkey's demography in the early Republican period, the parallel is obvious. The mid-1930s correspond to the fifteen years of age of the family where the ratio starts to decrease. As seen above, this implies that the peasantry produced more than its needs. This is how it sold more on the market and contributed to industrialisation. On the demand side, consuming less was another way of contributing to industrialisation (low propensity to consume).

What needs to be emphasised is the persistence of the small peasantry, and most importantly, the persistence of small peasantry behaviour despite possible interactions with market conditions. This is the only way the increase in labour productivity can be explained.

As such, it is argued here that land concentration and landlord pressure remained limited throughout the period. The evidence, however incomplete. The Ottoman legacy, the fact that the growth under open economy was mainly due to recovery, the droughts at the end of the 1920s, the low international cereal prices (wheat imported in open economy) lead us to believe that the legacy could not have been very easily dismantled.

Hence, the peasantry survived the crisis, and contributed to growth, in line with the Chayanov's peasant family economy[126].

It has also been argued in this paper that such a rural development was also consistent with the state fiscal policy and its concern of modernising the economy with emphasis on the urban economy and maximising production by minimising political rivalry.

Rural Solidarity

Another concept concerning peasant behaviour that may be considered as an extension of and possibly a complement to Chayanov's theory is solidarity.

Indeed, concerning land concentration, it might be argued that despite the fact that in a rural economy

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[126] Other aspects of the debates on peasantry can be found in T.H. Aston and C.H.E. Philpin (eds.), *The Brenner Debate: Agrarian Class Structure and Economic Development in Pre-Industrial Europe* (Cambridge, New York, Melbourne: Cambridge University Press, 1995).

where there is a high land/labour ratio, high soil fertility and low access to markets and infrastructure the optimal production unit is a family farm, in times of depression and/or drought the costs of production may lead to the concentration of land holdings because of increasing risks[127]. However, this paper argues that in the case of Turkey, the family peasantry nevertheless was able to survive because the large farm owners themselves were probably impoverished because of the depression and because of the persistence of the Ottoman legacy; and because they were more vulnerable to market fluctuations, as mentioned. Another point that probably contributed to their survival must have been the solidarity networks.

It has been argued that mutual insurance is an important characteristic of pre-industrial agrarian societies. Although in the beginning the arguments are constructed on a normative basis -the ethical values of the peasantry-, the concept of solidarity is later reconciled with the profit/utility maximising behaviour. Indeed, it is argued that solidarity is the formulation a long-term implicit insurance contract in which morality constitutes the basis of most clauses. As such "there is no contradiction between the fact that people in preindustrial societies pursue their long-term self-

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[127] Hans P. Binswanger and Klaus Deininger, "Explaining agricultural and agrarian policies in developing countries," *Journal of Economic Literature*, 35 (December 1997), pp. 1958-2005.

interest and the central idea of the moral economy of peasants, namely, that the ethical values of precapitalist societies emphasise solidarity as a moral obligation and subsistence as a right."[128]

The relevant point to our discussion is that "the occurrence of war or natural calamities revives solidarity and mutual assistance"[129]. Accordingly, during the droughts of 1927-8 and the depression, solidarity networks in Turkey must have strengthened, thus further enforcing the family peasantry. Instead of the land becoming concentrated in the hands of a small number of large landowners -the influence of whom we do not know the extent - these problems may have enforced solidarity and retrieval from the market.

This chapter has sought to palliate for the weaknesses of the factors examined in Chapter Two, in understanding the growth in agricultural production, and more specifically in cereal production. The internal dynamics of rural production appeared to be the most relevant factor behind the growth. As such, the factors such as the increase in exports, or the increase in the marketised production, is better understood.

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[128] Marcel Fafchamps, "Solidarity Networks in Preindustrial Societies: Rational Peasants with a Moral Economy," *Economic Development and Cultural Change,* 41:1 (October 1992), p.148.

[129] Ibid., p. 149.

CHAPTER V

CONCLUSION

Turkey's main difference with the developed economies in the 1930s was that it did not follow the long-term dynamics of these countries which led to the depression. This meant that it did not experience any oversupply problem, in the agricultural or industrial sectors. Furthermore, the crisis was namely felt through declining prices, which hit first, and above all, producers involved in the agricultural sector. However, interestingly enough, the production trend did not decrease.

The recovery of the commerce-oriented agricultural production is understandable, in that prices recovered more rapidly as the demand for these products was relatively higher for two reasons. First, given the specific nature of Turkey's exports, where international markets were not saturated, the external demand had not dramatically declined. Second, among the commercial agricultural production, some products such as cotton and sugar beet constituted the inputs for the emerging

industries, hence their domestic demand was not particularly low either.

The most interesting growth was recorded in cereal production, where production increased despite very low relative prices throughout the 1930s. The present study shows that the main reason behind this growth was due to the internal dynamics of the production[130]. The small peasantry increased its labour productivity in order to palliate revenue loss due to the collapse in prices. The increase in labour productivity was all the more impressive that the population was recovering.

The persistence of the small family production unit not only contributed to the increase in supply but also to the contraction of consumption. This meant that through a lower propensity to consume of the rural population, which constituted the majority of the population, demand was shifted to the urban areas. As such demand to the increasing industrial production could be generated without the need to recourse to expansionist, Keynesian policies. This is important because it shows that one of the reasons why it was possible for the state to pursue orthodox policies which systematically avoided expansionist policies was the dynamics of the economy itself.

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[130] Similar dynamics are depicted in other peasant economies, at the regional or national level, see case studies in Ian Brown (ed.), *The Economies of Africa and Asia in the Inter-War Depression* (Routledge, 1989).

Similarly, that the cereal production could increase despite decreasing prices was an asset for industrial production in that it allowed the maintenance of low worker wages through low bread prices. As such, the state did not need to support cereal production, and this was consistent with the orthodox policies.

Thus, the internal dynamics were of great use to the overall industrialisation project in a context of tight policies. On the other hand, this study shows that this reasoning rejected the thesis of accelerated peasant impoverishment and differentiation. Obviously, the small peasantry's purchasing power did decrease, however, the majority of the peasants were probably not left landless, so that even when they had to become seasonal workers -in rural and/or urban areas- the family production unit persisted. As such, the Chayanovian type of behaviour prevailed and this meant that even temporary waged-labour was complementary with the aim of the family unit to work harder to palliate for the loss in revenue.

Compared to other developing countries in the 1930s, Turkey's achievement is notable, especially when its performance is situated within the context of tight monetary policies. This study has tried to show that the peasantry base played an important role in this achievement.

It appears that the success of Turkey was based upon its social, political and economic structure. That the

weakness of class formation inherited from the Ottoman order in particular facilitated the implementation of a set of economic policy harsh on the majority of the population, the rural population, which, "thanks to" its weak/feeble connection with the market and the lack of other class pressures managed to extract more surplus. However, the pressure became unbearable with the inflationary and penury policies during the second world war, which led to the victory of an opposition which offered promising policies to the rural population[131].

Future developments also show that such a growth model was not only particular to a given international context, but also to that of a particular set of internal dynamics, where class formation was still primitive and the economy substantially rural. Once the rural population came into closer contact with the market and the urban population grew with not always converging interests, policies could no longer be undertaken on the basis of a state with greater coercive power, the latter having to deal with a more complex socio-economic structure.

Moreover, the fact that a country's group of small peasantry could still face such a deterioration in its purchasing power and work harder to cover its losses in

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[131] Surely this was not the only reason that led to the success of the opposition. Other factors such as the changing international economic order and the development of a bourgeoisie in the urban areas also need to be taken into account in this matter.

the first half of the twentieth century may also give us hints as to the behavioural patterns of the members of this groups in the urbanisation process. Indeed, if assuming that the small peasantry continued to prevail in the century, and that the urbanisation process has been more the outcome of pull factors rather than push factors, it is possible to take a new perspective of the behaviour of the majority of the urban population rooted in this group. Indeed, there would be serious implications in the making of economic policy in thinking that the Chayanovian behaviour prevailed in the "new" lower-income urban population.

APPENDIX

Data in all Appendix is derived from various *Statistical Yearbooks* and *Agricultural Statistics* published by the State Institute of Statistics.

APPENDIX A

AGGREGATE AGRICULTURAL PRODUCTION AND ACREAGE

ACREAGE (in hectares)

YEARS	CEREALS											PULSES								
	WHEAT	BARLEY	OAT	RYE	GRAINS (kaplý-ca)	RICE	MILLET	GRAINS (kuþ yemi)	MAIZE	MIXED CROP OF WHEAT AND RYE	TOTAL CEREAL	BROAD BEANS	PEA	CHICK PEA	BEAN	LENTIL	WILD BEANS (börül-ce)	VICIA ERACCA (fik)	VESC (bur-çak)	TOTAL PULSES
1928	2842500	1553700	135200	379800	93200	15200	56100	0	342200	57000	5474900	58100	400	34400	81300	33700	5700	19800	151700	385100
1929	2774420	1380400	175100	222000	77000	19700	93400	0	463801	49405	5255226	49100	500	50100	54900	22000	5621	16400	141500	317554
1930	2809300	1511300	166400	199800	83800	21900	70300	0	378501	55530	5296831	30700	2600	57200	62800	35400	7358	38300	159300	409319
1931	2902290	1384180	191300	246277	77200	20000	101700	0	420701	36000	5379648	48500	2600	64100	78800	26400	8069	43600	125500	397569
1932	2656467	1365050	138300	169660	60100	23500	66200	0	364200	31200	4874677	51700	1300	44600	59100	29200	5310	38000	91800	321010
1933	2686502	1376488	183020	344094	102493	27276	62429	0	447482	31241	5261025	63539	2778	50496	114554	29306	6063	23726	144705	435167
1934	3155761	1609250	181875	275275	86742	42290	37738	12548	436772	65217	5903468	57889	3784	81742	104596	41266	6357	37269	143912	476815
1935	3429404	1724020	229119	306051	99809	44885	55852	10406	409361	95150	6404057	67876	2394	74226	68091	34812	6089	40140	127802	421430
1936	3546385	1803209	444507	360992	125335	36025	47447	15309	406751	125192	6911152	73740	4484	69518	64080	30528	6817	25076	124591	398834
1937	3278130	1744000	214442	338568	109369	20547	46240	25131	452603	115254	6344284	63767	2177	70287	63498	27688	6292	19451	104487	357647
1938	3806210	1957533	248036	455337	114065	19888	48282	29949	450296	135087	7264683	63908	2195	67405	69212	30292	6809	20232	114959	375012
1939	3939014	1996121	288174	433551	116894	21089	59027	28271	449524	159029	7490694	69488	2049	68261	69380	31319	6565	21657	112512	381231
1928/29-1938/39 (increase in %)	37,9%	34,7%	72,8%	47,7%	35,7%	17,4%	-28,2%		11,6%	176,4%	37,5%	24,4%	371,6%	60,6%	1,8%	10,6%	18,1%	15,7%	-22,4%	7,6%

PRODUCTION (in tons)

YEARS	CEREALS											PULSES								
	WHEAT	BARLEY	OAT	RYE	GRAINS (kaplý-ca)	RICE	MILLET	GRAINS (kuþ yemi)	MAIZE	MIXED CROP OF WHEAT AND RYE	TOTAL CEREAL	BROAD BEANS	PEA	CHICK PEA	BEAN	LENTIL	WILD BEANS (börül-ce)	VICIA ERACCA (fik)	VESC (bur-çak)	TOTAL PULSES
1928	1641072	900127	78422	109697	69308	20600	50177	0	417586	20938	3307927	28656	1052	18222	55617	8882	3800	16654	67119	200002
1929	2718143	1699214	141250	331102	97660	40356	122064	0	623221	26683	5799693	32823	548	48969	82322	14581	6625	12094	117210	284640
1930	2586377	1536589	163119	310488	84480	23135	43238	0	470744	66934	5285104	33034	11984	48115	66828	20321	6093,29	25281	126494	299291
1931	2992631	1804558	117756	457695	71160	37699	129318	0	563755	52886	6227458	45486	926	60209	86509	43230	7012	21929	97315	362616
1932	1935800	1267614	125762	213651	59686	47086	83919	0	426354	65654	4225526	48510	2862	41408	44730	14387	3799	27277	66868	249841
1933	2671212	1598493	207443	264253	131587	46455	46803	0	549646	47098	5562990	62970	1240	38730	41633	18647	3843,78	30090	91198	288352
1934	2713732	1672348	158784	243585	87397	72154	49987	2352	489093	73538	5562970	59293	2976	50087	93679	19990	4574,16	45374	94929	370902
1935	2521277	1371511	231988	216122	60076	89843	32982	5901	456333	54793	5040826	105555	1485	40808	51429	18691	2746,73	20774	59104	300593
1936	3739617	2291738	215484	447340	79750	71843	45520	14932	671929	99795	7677948	48788	2047	48238	51271	19393	3525,46	28809	85897	287968
1937	3669223	2176114	234719	380731	91208	36007	42312	18343	540064	112560	7281281	66710	1278	58968	54507	23781	5694,98	25330	82588	318857
1938	4255807	2383215	274795	406467	114943	45104	42928	16551	560798	131863	8232471	65089	1337	54779	59510	24890	4690,89	24047	85933	320276
1939	4175601	2289564	283907	407903	104512	48169	49916	20549	597002	139268	8116391	70073	1630	68988	59370	25789	4580,02	28883	92282	351595
1928/29-1938/39 (increase in %)	93,4%	79,8%	154,3%	84,7%	31,4%	53,0%	-46,1%		11,2%	469,4%	79,5%	119,9%	85,4%	84,2%	-13,8%	116,0%	-11,1%	84,1%	-3,3%	38,6%

APPENDIX A (continued)

YEARS	INDUSTRIAL CROPS												GRAND TOTAL
	POTATOES	BEET	COTTON (pure and seed)	ANISE	HEMP (seed included)	OPIUM (seed included)	FLAX (fibre and seed)	ONION	GARLIC	SESAME	TOBACCO	TOTAL IND. CROPS	
1928	26400	9100	177542	1000	11300	49400	3900	12000	2000	49400	66210	408252	6268252
1929	66200	10700	184979	0	6700	35000	6100	12300	3700	45200	52647	423526	5996306
1930	31400	8900	275385	1300	600	46500	8000	19300	3100	73600	70855	538940	6245090
1931	45400	14900	216740	1000	0	54100	20600	26200	6000	66700	74683	526323	6303540
1932	30100	17400	155651	1200	0	32200	16400	20700	5600	55500	27974	364325	5560012
1933	35502	11271	161582	1937	9753	45082	7718	19831	4393	70551	51036	418908	6115100
1934	65239	23075	196719	1989	10994	20168	11309	17622	4234	65581	44706	461662	6841945
1935	46644	25630	210602	830	10794	25417	9880	18204	3470	66132	54026	471732	7297219
1936	50904	25174	253502	714	10676	37080	18088	35278	8180	71378	84783	596058	7906044
1937	52572	28004	308452	1322	12813	25678	21608	35664	7875	64251	94499	652788	7354719
1938	55176	22911	275158	2423	13316	28416	22532	38860	8748	57730	84000	609495	8249190
1939	62740	36866	290266	3869	10189	31120	24648	41759	9213	66641	76043	653567	8525492
1928/29-1938/39 (increase in %)	27,3%	201,9%	56,0%	529,2%	30,6%	-29,5%	371,8%	231,8%	215,1%	31,5%	34,7%	51,9%	36,8%

YEARS	INDUSTRIAL CROPS												GRAND TOTAL
	POTATOES	BEET	COTTON (pure and seed)	ANISE	HEMP (seed included)	OPIUM (seed included)	FLAX (fibre and seed)	ONION	GARLIC	SESAME	TOBACCO	TOTAL IND. CROPS	
1928	49497	67084	76110	395	0	5013	2851	41890	4739	29401	43034,65	320014,65	3827943,65
1929	133500	55677	63556	0	0	9244	10571	61332	8447	36959	36503,31	415789,31	6500121,88
1930	114246	91419	51435	375	0	20921	3627	53432	6695	28788	47210,89	418148,89	6002543,86
1931	109944	257314	61744	393	0	20785	4218	85769	14952	30437	51111,05	636667,05	7226741,05
1932	73976	151757	19879	321	0	5899	4834	46570	9056	21153	18040,21	351485,21	4826852,21
1933	106859	182798	27791	550	8703	9259	6920	81330	9014	26694	40148,01	500069,01	6351410,79
1934	213154	456766	37762	629	13385	4485	2764	60740	5875	25580	35678,13	856847,13	6790719,29
1935	105734	445664	52228	335	7095	6851	6097	64903	6438	19831	36004,32	751193,32	6092612,05
1936	177350	452374	62502	2175	21136	19199	10958	99657	9494	39491	74059,31	968395,31	8934311,77
1937	171111	332700	67270	325	11307	7359	12675	89883	11890	24783	72676,95	801979,95	8402117,93
1938	179922	290069	64718	1695	10929	10652	10770	110887	17700	26101	58800,06	782243,06	9334989,95
1939	258519	634905	63727	2480	9617	16578	16203	121971	19383	34048	65434,07	1242865,1	9710851,08
1928/29-1938/39 (increase in %)	139,6%	653,5%	-8,0%	957,0%	#DIV/0!	91,0%	101,0%	125,6%	181,2%	-9,4%	56,2%	175,2%	84,4%

APPENDIX B

ACREAGE AND PRODUCTION OF MAJOR AGRICULTURAL PRODUCTS ACCORDING TO REGIONS

ACREAGE (hectares)

Wheat

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	549000	359800	146200	438100	180800	168400	207200	326100	466900	2842500
1929	452700	419500	161800	414400	142420	211100	163500	422600	386400	2774420
1930	585600	374900	171200	333200	118500	243000	164500	464100	354300	2809300
1931	704800	355000	134100	322400	107300	207290	193200	520500	357700	2902290
1932	540800	314700	89300	416917	151700	288900	145050	381100	328000	2656467
1933	711093	381912	167698	318930	136228	181228	170011	282958	336444	2686502
1934	884613	341942	138849	500640	215914	249232	152738	320464	351369	3155761
1935	888611	366613	253316	335000	280870	305430	184835	407310	407419	3429404
1936	793890	411730	346759	309056	272903	285276	215139	319000	592632	3546385
1937	657954	412546	259506	274497	320900	234991	220187	357373	540176	3278130
1938	743270	416896	269435	311245	351042	263777	257682	377475	815388	3806210
1939	836618	437340	311007	318906	335959	283953	252419	423211	739601	3939014

Barley

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	269800	259900	97800	243100	130400	115900	143900	114100	178800	1553700
1929	211600	251400	102600	231100	127400	98600	114500	91200	152000	1380400
1930	219900	253000	110900	273800	97900	130300	135000	141600	148900	1511300
1931	268600	253500	82400	142500	43100	104180	119300	217400	153200	1384180
1932	215800	219400	83100	224500	61600	138100	105750	147000	169800	1365050
1933	271357	265758	85191	183573	57602	125280	109940	98671	179116	1376488
1934	358095	237585	71720	258888	130791	126150	103895	155002	167124	1609250
1935	329898	261379	102143	248771	128484	164228	116975	174671	197471	1724020
1936	333489	295600	189564	214252	119654	128209	133458	161887	227096	1803209
1937	297139	280207	94075	179366	207749	113509	139961	187106	244888	1744000
1938	334242	273382	96298	185988	258119	111580	151878	186933	359113	1957533
1939	336570	287844	100418	194289	282688	130647	157795	196332	309538	1996121

Broad beans

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	200	45800	4400	3200	300	200	2200	1000	800	58100
1929	600	40100	4900	1600	300	100	1000	200	300	49100
1930	400	26400	1000	600	300		900	600	500	30700
1931	600	34500	5700	2700	100	700	3300	900		48500
1932	600	37300	6500	5400	100		900	700	200	51700
1933	407	44531	7222	6083	301	257	2638	1597	503	63539
1934	886	42753	5868	3798	45	361	2908	1051	219	57889
1935	1307	51389	9212	2503	96	204	2078	855	232	67876

PRODUCTION (tons)

Wheat

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	344432	276479	99206	226192	99211	77336	153526	226744	137946	1641072
1929	722356	351545	98843	313325	216124	161097	152174	355704	346975	2718143
1930	672365	287348	166868	201165	103289	209688	199423	325722	420509	2586377
1931	825399	269959	125540	271872	194636	258276	189185	288129	569635	2992631
1932	411616	257993	122796	168737	179330	164425	130814	250988	249101	1935800
1933	730761	466433	234458	214861	120431	147405	162905	280277	313681	2671212
1934	637752	359682	117825	330820	153317	197852	163577	364335	388572	2713732
1935	517398	351430	280263	308441	137221	220295	111184	313981	281064	2521277
1936	810038	472209	356178	263388	282510	227087	207651	428609	691947	3739617
1937	780383	519176	267864	278848	390534	238114	216660	450867	526777	3669223
1938	805050	560226	337038	337693	394307	271667	272799	496007	781020	4255807
1939	924795	514793	339107	328438	282448	359411	284659	606080	535870	4175601

Barley

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	162777	166217	69544	116683	86173	26987	120081	108360	43305	900127
1929	386402	357555	69231	228814	174326	89999	106316	134204	152367	1699214
1930	235770	366241	135494	169076	106993	106384	169913	123140	123578	1536589
1931	469826	234635	99418	241696	80609	143022	161824	177339	196189	1804558
1932	162882	245911	97623	239584	71349	89698	122930	102277	135360	1267614
1933	317337	401332	133851	173068	66010	51584	151374	125868	178069	1598493
1934	370965	254122	71293	261929	82092	93618	163898	179742	194689	1672348
1935	210627	264251	145803	284925	92986	84066	70394	113381	105078	1371511
1936	377706	285386	197043	196116	290156	129731	155089	292915	367596	2291738
1937	436534	341762	117821	170584	266436	115683	168079	236352	322863	2176114
1938	386532	391844	131747	168917	330845	116465	184970	270144	401751	2383215
1939	368030	343641	116188	210197	308208	141775	193581	320390	287554	2289564

Broad beans

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	1871	19680	3017	1221	372	269	1155	791	280	28656
1929	182	25278	2996	1444	618	158	1495	214	438	32823
1930	366	26839	2522	1031	451	121	902	260	542	33034
1931	179	31250	5923	3662	199	966	1936	1288	83	45486
1932	218	29469	9684	6653	35	194	1399	783	75	48510
1933	192	41673	10631	5008	369	43	3359	1333	362	62970
1934	678	34348	7322	13993	86	120	1652	917	177	59293
1935	462	38254	64632	842	19	97	470	565	214	105555

1936	281	54517	12424	2202	177	113	3276	465	285	73740
1937	453	52512	5597	2327	22	15	2001	716	124	63767
1938	581	51424	6240	2422		14	2389	639	199	63908
1939	293	56945	5718	2089		24	3504	780	135	69488

1936	278	31070	12031	3358	257	281	1129	343	41	48788
1937	326	56886	6270	1600	22	10	951	583	62	66710
1938	231	53532	7429	1995		11	1171	654	66	65089
1939	322	57646	7714	1605		22	1670	922	172	70073

APPENDIX B (continued)

ACREAGE (hectares)

Beet

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	4000	-	2500	300	-	-	300	-	2000	9100
1929	6000	-	2400	900	-		1100	-	300	10700
1930	2500	-	4700	100	-	300	300	-	1000	8900
1931	4400	-	8800	100	-	-	100	300	1200	14900
1932	5000	-	10600	100	100	-	200	200	1200	17400
1933	2522	29	6471	80	103	38	86	126	1816	11271
1934	6000	171	10200	54	216	34	1200	3200	2000	23075
1935	5859	185	11747	102	314	31	1538	3638	2216	25630
1936	7925	310	9244	162	424	60	1428	3504	2117	25174
1937	10835	163	7192	369	1	15	1770	4570	3089	28004
1938	6135	102	7945	461	3		1737	4174	2354	22911
1939	7303	1093	14334	371	3	4	2287	6707	4764	36866

Cotton

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	2012	24566	762	145662	1100	1400	40	2000		177542
1929	1678	39395	704	140556	500	546	600	500	500	184979
1930	3149	26080	701	239020	2000	900	635	1900	1000	275385
1931	2630	18673	703	189350	2400	850	34	2000	100	216740
1932	1631	12173	572	133950	3200	1700	25	2000	400	155651
1933	1836	20764	2641	131742	2500	1166	27	706	200	161582
1934	1733	23583	238	165578	205	2957	37	2352	56	196719
1935	2165	32768	1066	165768	3607	2837	33	2137	221	210602
1936	2722	41368	1726	201554	440	3274	51	2167	200	253502
1937	2964	50356	1442	237777	7300	1254	95	2744	4520	308452
1938	3302	53625	963	204524	7000	941	102	2916	1785	275158
1939	3367	66181	2178	205792	6800	1119	105	3190	1534	290266

PRODUCTION (tons)

Beet

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	43865	3918	16534	350	16	188	1444	7	762	67084
1929	33661	239	17915	810	68		1433	-	1551	55677
1930	19714	245	65703	299	175	268	2369	871	1775	91419
1931	60489	271	188468	565	84	262	292	1023	5860	257314
1932	50663	1485	89576	1278	510	528	376	367	6974	151757
1933	43730	271	129606	80	65	837	169	1506	6534	182798
1934	111071	666	201232	68	68	231	30246	41288	71896	456766
1935	57663	566	300409	90	86	220	1745	72174	12711	445664
1936	134504	1138	153096	334	175	123	29770	107996	25238	452374
1937	127960	707	85243	823	40	68	23866	68984	25009	332700
1938	98366	676	63254	1534	35		22682	84890	18632	290069
1939	122755	16543	227854	734	40	5	50284	151437	65253	634905

Cotton

Years	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	TOTAL
1928	867	18067	77	53287	1221	411	3	2177		76110
1929	1168	24620	86	35227	610	945	179	712	9	63556
1930	2371	13180	115	32788	1471	927	304	259	20	51435
1931	1932	12248	129	44801	1200	164	2	1251	17	61744
1932	484	4496	109	12177	1600	48	3	954	8	19879
1933	608	9244	569	16374	656	236	10	80	14	27791
1934	516	9807	25	26636	165	241	3	368	1	37762
1935	693	11735	101	36843	1230	948	7	658	13	52228
1936	659	30815	690	29419	-	292	3	462	162	62502
1937	1184	22189	314	39952	2600	289	10	570	162	67270
1938	946	25095	326	34724	2620	140	20	790	57	64718
1939	986	25986	537	32995	1832	299	25	992	75	63727

APPENDIX C

ACREAGE ACCORDING TO REGIONS AND PRODUCTS

	CEREALS											PULSES								
	Wheat	Barley	Oat	Rye	Spelt	Rice	Millet	Grains	Maize	Mixed crop of wheat and rye	Total cereals	Broad beans	Peas	Chick peas	Beans	Lentils	Wild beans	Vicia eracca	Vesc	Total pulses
REGION 1																				
1928	549000	269800	8000	27900	17400	2300	2700		21200	5800	904100	200	-	3200	4400	3900	-	5900	23400	41000
1929	452700	211600	8500	37900	8700	6400	3600		19600	4600	753600	600	200	11200	3300	7300	-	7300	53100	83000
1930	585600	219900	9500	19700	9600	3500	3100		42900	21100	914900	400	-	5200	5300	2600	200	4400	23200	41300
1931	704800	268600	14600	21900	9000	2500	3300		47000	6400	1078100	600	-	6600	6200	3000	-	6200	30300	52900
1932	540800	215800	12100	9717	10700	5100	2100		47200	400	843917	600	-	6800	7900	7000	-	11300	18100	51700
1933	711093	271357	17416	16883	16452	2614	2266		44652	5086	1087819	407	-	7049	7362	6084	128	5187	54587	80804
1934	884613	358095	22053	16699	18809	2154	570		100675	14758	1418426	886	-	6956	12280	5778	291	8826	37849	72866
1935	888611	329898	24952	22939	15364	2269	749		29061	17345	1331188	1307	-	6483	10177	6227	164	8605	25508	58471
1936	793890	333489	24074	24069	17902	2932	903		32876	29932	1260067	281	1	5938	9245	5372	39	7178	24547	52601
1937	657954	297139	25617	20514	10510	2824	1659	7	25689	25238	1067151	453	4	7173	7475	3019	122	2946	25597	46789
1938	743270	334242	25882	23856	13241	2067	1120	4	37204	39857	1220743	581	-	7028	8297	3921	102	3069	28103	51101
1939	836618	336570	25556	32134	11016	2199	988	4	32465	43680	1321230	293	-	6711	8572	4030	133	3076	24700	47515
REGION 2																				
1928	359800	259900	32200	53700	8600	-	16500		40600	1900	773200	45800	-	6500	7000	800	4500	1500	40900	107000
1929	419500	251400	21500	45200	6300	-	13000		80000	2000	838900	40100	100	10700	5400	600	4100	100	35200	96300
1930	374900	253000	28800	48400	10300	-	16000		59000	7200	797600	26400	100	12400	5100	1700	5800	600	35400	87500
1931	355000	253500	30400	61100	7400	-	23500		58100	5800	794800	34500	200	13300	6000	1600	4400	300	29000	89300
1932	314700	219400	29500	47400	20100	200	16700		70000	4200	722200	37300	500	10300	5700	1700	4000	200	27400	87100
1933	381912	265758	59957	75627	6151	743	17211		67951	3750	879060	44531	1266	13411	6707	1099	4946	1048	30967	103975
1934	341942	237585	36173	51653	5369	2023	12508	840	59194	8503	755790	42753	543	24892	4664	1017	5037	319	30910	110135
1935	366613	261379	33578	47959	5665	617	14329	57	61785	10539	802521	51389	369	21860	5614	1540	5118	482	30429	116801
1936	411730	295600	34529	51771	6556	2504	18484	224	70201	9884	901483	54517	526	24016	6317	1889	5714	272	31553	124804
1937	412546	280207	38733	53808	10510	758	14835	510	76799	11567	900273	52512	620	18168	6621	1093	4386	294	30404	114098
1938	416896	273382	43128	55223	6006	307	18552	317	70353	15346	899510	51424	647	17231	7781	1133	4728	242	32706	115892
1939	437340	287844	49956	59765	9290	485	21753	421	70723	14637	952214	56945	727	16238	7284	932	4778	178	30486	117568
REGION 3																				
1928	146200	97800	37300	34700	20000	600	2600	-	52900	2900	395000	4400	100	2200	2600	400	100	100	10100	20000
1929	161800	102600	40500	36100	18500	400	4000	-	59900	-	423800	4900	-	2400	3100	400	-	1600	9600	22000
1930	171200	110900	47800	51400	28000	900	4000	-	78200	4000	496400	1000	100	11000	3600	4900	100	100	11100	31900
1931	134100	82400	43900	48100	23200	1200	1600	-	68400	2800	405700	5700	600	3000	2700	700	300	600	6900	20500
1932	89300	83100	35100	31100	9600	2800	3400	-	53200	1600	309200	6500	300	3300	2600	900	200	200	6900	20900
1933	167698	85191	50161	42324	21322	2916	2481	-	76401	1794	450288	7222	311	3682	3793	1016	282	222	9943	26471
1934	138849	71720	48288	30673	15117	3134	996	10995	57556	2449	379777	5868	1214	3574	2795	761	30	255	7436	21933
1935	253316	102143	65178	37091	21716	1561	1010	9138	83592	1733	576478	9212	590	4782	4200	1440	145	1081	9650	31100
1936	346759	189564	273086	56247	34339	2825	3445	14993	102925	1987	1026170	12424	2280	5109	7617	757	196	841	8738	37962
1937	259506	94075	56348	46811	22772	2971	5224	24564	114343	2287	628901	5597	749	6283	5382	928	306	693	7591	27529
1938	269435	96298	67499	47641	26685	2732	2750	29420	102386	2456	647302	6240	901	5397	4982	921	435	396	6250	25522
1939	311007	100418	86555	59483	30352	3310	2560	27513	97310	2339	720847	5718	682	5587	4990	862	227	359	5888	24313

REGION 4																				
1928	438100	243100	35200	25700	-	2800	9800		16000	34100	804800	3200	-	3600	2200	6900	900		37100	53900
1929	414400	231100	51000	13300	-	2000	14800		21900	4600	753100	1600	-	4400	5700	3700	1000		17000	33400
1930	333200	273800	58400	6400	-	5400	17200		20800	3200	718400	600	100	6000	9500	10500	1300		48400	76400
1931	322400	142500	75500	10300	-	8700	13600		23700	7300	604000	2700	200	13400	10400	4600	3000		8900	43200
1932	416917	224500	37400	14500	100	6100	13500		14100	12100	739217	5400	300	6000	11100	5200	600	-	5700	34300
1933	318930	183573	32296	28163	-	6480	5230		15073	3630	593375	6083	153	5532	9069	3578	532	43	6269	31259
1934	500640	258888	51553	34275	-	11864	7054	355	20410	21260	906299	3798	154	5445	6405	8814	715	840	7468	33639
1935	335000	248771	68802	34609	-	17801	9809	1071	19144	22065	757072	2503	70	5925	5852	8918	569	737	7398	31972
1936	309056	214252	69330	27891	-	8785	6208		19020	27678	682220	2202	323	4728	4551	6375	662	46	9057	27944
1937	274497	179366	50478	18287	-	6081	6924	1	20102	20250	575986	2327	99	5207	5204	6815	991	30	6169	26842
1938	311245	185988	51928	20096	-	7284	8291	96	20131	18415	623474	2422	143	6209	4643	7766	1157	30	7380	29750
1939	318906	194289	62868	23296	-	6689	14798	275	20044	19680	660845	2089	158	7102	5881	7609	1031	35	8437	32342
REGION 5																				
1928	180800	130400	-	16300	-	200	400		1000	100	329200	300	200	-	700	600	-	1900	300	4000
1929	142420	127400		12600		1700	400		1301		285821	300		-	1300	1400	.	100	-	3100
1930	118500	97900		8000		100	300		1501		226301	300	-	300	500	700		3800	200	5800
1931	107300	43100	-	6400		100	400		2301		159601	100	100	700	800	600		1900	100	4300
1932	151700	61600	-	9800		400	5300		700		229500	100	-	500	800	1100		2000	200	4700
1933	136228	57602		12686		428	171		496	1365	208976	301	40	698	468	500	15	740	278	3040
1934	215914	130791	64	11092		727	7	113	3829	231	362768	45	366	1039	1505	3081	1	2115	53	8205
1935	280870	128484	76	11521		489	1435		812	200	423887	96	5	353	745	425		4665	46	6335
1936	272903	119654	175	28243	5770	466	150		1017	452	428830	177	20	343	523	246		1163	39	2511
1937	320900	207749	25	36042	10	325	110		5307	300	570768	22		636	2300	992		580	30	4560
1938	351042	258119	72	15217	15	720	112		5859	400	631556			650	3118	1195		973	25	5961
1939	335959	282688	50	14827	12	534	108		6716	350	641244		120	709	1085	1050		796	32	3792
REGION 6																				
1928	168400	115900		5600		3500	18900		800	2800	315900	200		3500	200	-		200	1500	5600
1929	211100	98600		9200		3000	47200		600		369700	100		4400	500	1500		100	6000	12600
1930	243000	130300		2600		5100	21300		1200	10	403510	-		4800	600	6800			4100	16300
1931	207290	104180		56400		1500	48900		1100		419370	700		6400	4500	8200			5800	25600
1932	288900	138100		300		2200	13800		200		443500	-	-	3100	200	7600			8000	18900
1933	181228	125280		24567		5547	24242		844		361708	257		5469	579	9553			6443	22301
1934	249232	126150		1585		6997	9003	115	464	357	393903	361		11364	726	11499	2	42	7191	31185
1935	305430	164228		875		7808	15853		309	605	495108	204		9269	100	5043			4468	19084
1936	285276	128209	30	1042		8955	13220		210	300	437242	113		8237	120	7533			8077	24080
1937	234991	113509	180	2396		1851	11549	20	265	278	365039	15	5	9619	271	8418			3690	22018
1938	263777	111580	133	1961		1294	10568	10	330	255	389908	14		7347	211	8972			5762	22306
1939	283953	130647	290	1585		1615	11335	15	332		429772	24		7054	220	10015			7307	24620
REGION 7																				
1928	207200	143900	15000	19800	41600	4200	2500		186500	4500	625200	2200	100	4200	60000	1200	200	4700	3600	76200
1929	163500	114500	7600	13200	43100	5200	5000		201200	4205	557505	1000	200	1400	27400	400	400	3300	900	35000
1930	164500	135000	11100	25000	34600	5900	3800		152200	5120	537220	900	2300	700	33000	1400	-	8400	2900	49600
1931	193200	119300	20600	20400	31400	5800	7800		165600	9700	573800	3300	1500	2800	40300	1300	300	28600	12700	90800
1932	145050	105750	13200	19700	19300	6500	9100		150000	7300	475900	900	200	1200	25200	1600	100	17500	2700	49400
1933	170011	109940	11923	23302	57926	8370	8070		215715	10895	616152	2638	999	2586	80006	1706	149	6724	2721	97529
1934	152738	103895	11129	18499	46229	14921	4366	7	167514	11853	531151	2908	1480	7094	68728	2600	171	12767	8468	104216
1935	184835	116975	20582	27128	55989	13486	10080	99	188717	21345	639236	2078	1360	3620	33552	3061	138	11034	4829	59672

1936	215139	133458	18959	17816	60218	8633	3517		162771	11806	632317	3276	1331	1064	26780	1174	81	7161	4356	45223
1937	220187	139961	13891	22265	65065	5207	4254	3	182895	11962	665690	2001	680	4066	25299	1234	49	6962	3402	43693
1938	257682	151878	22762	24269	67575	4932	5262	4	192932	15848	743144	2389	486	4292	30526	1162	56	7044	3603	49558
1939	252419	157795	22935	30578	65681	5516	5528	5	197833	11852	750142	3504	330	3439	29700	1253	66	8876	4696	51864
REGION 8																				
1928	326100	114100	4500	7000	5600	1600	2600		18200		479700	1000		2300	1600	13400		4600	9600	32500
1929	422600	91200	33000	12800	400	1000	5000		60900		626900	200		3700	6100	4500		3200	4200	21900
1930	464100	141600	2000	12100	1300	1000	4100		16900	1200	644300	600		4500	1900	2800	100	18400	9100	37400
1931	520500	217400	3700	16200	6200	200	2300		45200	3600	815300	900	-	1700	2100	2200	-	3200	6400	16500
1932	381100	147000	4500	9700	300	200	1900		12300	200	557200	700	-	1800	1000	1600	400	3000	3000	11500
1933	282958	98671	7760	7111	465	178	1908		14116	1038	414205	1597	2	3021	1984	2923	39	6403	9449	25418
1934	320464	155002	5724	17180	1218	470	3225	123	18907	2298	524611	1051	17	12187	3248	5356	42	10541	15893	48335
1935	407310	174671	5409	23007	1075	854	2587	41	17882	2728	635564	855		10880	2748	5497		12247	14214	46441
1936	319000	161887	2420	19818	550	925	1300	92	12627	2056	520675	465	3	11191	1511	3573	17	5585	4504	26849
1937	357373	187106	1490	7712	357	530	1437	26	20219	969	577219	716	2	10837	3114	1735	108	6319	5629	28460
1938	377475	186933	1842	11491	376	552	1387	98	13764	804	594722	639		10983	1361	1687	107	6572	4818	26167
1939	423211	196332	2123	11818	374	741	1617	38	14164	781	651199	780		10087	1572	2014	69	6498	4671	25691
REGION 9																				
1928	466900	178800	3000	189100			100		5000	4900	847800	800	-	8900	2600	6500		900	25200	44900
1929	386400	152000	13000	41700			400		18400	34000	645900	300		11900	2100	2200		700	15500	32700
1930	354300	148900	8800	26200			500		5800	13700	558200	500		12300	3300	4000	-	2600	24900	47600
1931	357700	153200	2600	5477			300		9300	400	528977	-	-	16200	5800	4200		2800	25400	54400
1932	328000	169800	6500	27443			400		16500	5400	554043	200	-	11600	4600	2500		3800	19800	42500
1933	336444	179116	3507	113431	177		850		12234	3683	649442	503	7	9048	4586	2847		3359	24048	44398
1934	351369	167124	6891	93619			9		8223	3508	630743	219	10	9191	4245	2360	20	1564	28644	46253
1935	407419	197471	10542	100922					8059	18590	743003	232		11054	5103	2661		1289	31260	51599
1936	592832	227096	21904	134095			220		5104	41097	1022148	285	-	8892	7416	3609	12	2830	33720	56764
1937	540176	244888	27680	130733	145		248		6984	42403	993257	124	18	8298	7832	3454	332	1627	21975	43660
1938	815388	359113	34790	255583	167		240		7337	41706	1514324	199	18	8268	8293	3535	235	1906	26312	48766
1939	739601	309538	37841	200065	169		340		9937	65710	1363201	135	32	11334	10076	3554	259	1839	26295	53524

APPENDIX C (continued)

	INDUSTRIAL CROPS											
	Potatoes	Beet	Cotton	Anise	Hemp	Opium	Flax	Onions	Garlic	Sesame	Total ind. crops	Grand total
REGION 1												
1928	2500	4000	2012	400	1600	8200	100	300	100	500	19712	964812
1929	5300	6000	1678	-	700	5600	600	1600	200	100	21778	858378
1930	5400	2500	3149	-	-	7300	100	800	-	400	19649	975849
1931	6300	4400	2630	100	-	5300	400	1200	200	600	21130	1152130
1932	3900	5000	1631	100	-	5200	700	2000	900	500	19931	915548
1933	4276	2522	1836	300	452	14658	978	917	189	304	26432	1195055
1934	7873	6000	1733	429	314	1822	980	1434	571	688	21844	1513136
1935	9048	5859	2165	305	265	3260	972	566	47	556	23043	1412702
1936	7940	7925	2722	80	230	7798	1026	2014	201	618	30554	1343222
1937	5773	10835	2964	315	757	4482	1175	2684	412	572	29969	1143909
1938	5995	6135	3302	850	696	4113	1182	3036	576	655	26540	1298384
1939	7500	7303	3367	705	892	5059	1294	3513	661	642	30936	1399681
REGION 2												
1928	1700	-	24566	400	1900	25000	800	2900	800	20600	78666	958866

1929	2600	-	39395	-	1800	10400	800	3700	2300	21000	81995	1017195
1930	2200	-	26080	800	100	18400	600	4600	1000	14300	68080	953180
1931	1300	-	18673	500		26100	3000	7100	1700	20100	78473	962573
1932	1900	-	12173	900		11600	3600	6300	1400	15900	53773	863073
1933	1920	29	20764	1442	3051	17247	1841	6311	1336	20322	74263	1057298
1934	2948	171	23563	1363	2541	7857	2074	3155	770	20257	64699	930624
1935	3607	185	32768	420	2872	10620	2312	4771	1310	24775	83640	1002962
1936	3684	310	41368	532	2970	11017	2657	10088	2368	30629	105623	1131910
1937	4448	163	50356	900	3276	6996	3161	8667	2656	30137	110760	1125131
1938	4894	102	53625	1447	3029	8052	2566	9415	2930	26013	112073	1127475
1939	5100	1093	66181	2915	3159	8697	2585	9627	2919	25238	127514	1197296
	REGION 3											
1928	900	2500	762	200	1900	1000	2800	3000	300	4700	18062	433062
1929	2600	2400	704	-	-	16100	3900	2300	200	1400	29604	475404
1930	2900	4700	701	500	-	3100	6500	2800	200	6200	27601	555901
1931	1800	8800	703	400	-	2700	15600	1400	700	7400	39503	465703
1932	2100	10600	572	200	-	1800	9200	1400	100	7000	32972	363072
1933	1948	6471	2641	162	-	409	2580	3191	176	7640	25218	501977
1934	1527	10200	238	187	10	270	2880	1172	169	10201	26854	428564
1935	2454	11747	1066	95	-	2260	2252	1290	179	8049	29392	636970
1936	3837	9244	1726	100	35	919	9523	5752	965	16861	48962	1113094
1937	3871	7192	1442	107	572	943	12688	5307	1020	8383	41525	697955
1938	3834	7945	963	124	319	874	13164	5085	1010	4904	38222	711046
1939	4567	14334	2178	199	35	955	15411	6605	1441	18196	63921	809081
	REGION 4											
1928	1000	300	145662			600		1400	100	23400	172462	1031162
1929	1900	900	140556			-		1500	500	14800	160156	946656
1930	3500	100	239020			500		2400	800	51700	298020	1092820
1931	4400	100	189350			1400		3900	1200	37900	238250	885450
1932	3400	100	133950			1500	1600	4300	1500	31000	177350	950867
1933	2013	80	131742	33	129	21	252	2225	495	40242	177232	801866
1934	2578	54	165578	10	191	30	26	5093	1224	33240	208024	1147962
1935	3116	102	165768		235	-	103	2896	492	32058	204770	993814
1936	4182	162	201554		72	-	301	3397	942	22418	233028	943192
1937	4383	369	237777	-	46	-	50	4549	1127	24070	272371	875199
1938	5224	461	204524	2	2925	-	225	4833	1146	24857	244197	897421
1939	4683	371	205792	50	149	-	213	4968	1091	21425	238742	931929
	REGION 5											
1928	4500	-	1100					400	-		6000	339200
1929	6800	-	500				-	600	-	6900	14800	303721
1930	2500	-	2000				-	700	100		5300	237401
1931	-	-	2400					-	-		2400	166301
1932	1200	100	3200				100	-			4600	238800
1933	3665	103	2500				52	486	1		6807	218823
1934	2051	216	205				3	521	13		3009	373982
1935	2233	314	3607					865	16	2 -	7035	437257
1936	3544	424	440	2	2		570	1016	282		6280	437621
1937	4634	1	7300				40	1642	195	175	13987	589315
1938	5459	3	7000				40	1778	256	200	14736	652253
1939	6816	3	6800				43	1704	162	100	15628	660664
	REGION 6											

1928	800	-	1400		500			600	-	200	3500	325000
1929	-		546		2100			100	-	1000	3746	386046
1930	-	300	900					2900	-	1000	5100	424910
1931	200	-	850			100		5600	100	700	7550	452520
1932	-	-	1700					300	-	800	2800	465200
1933	322	38	1166		647			857	17	845	3892	387901
1934	310	34	2957		390			265	47	876	4879	429967
1935	165	31	2837	10	426			1018	56	531	5074	519266
1936	115	60	3274		374			2062	580	254	6719	468041
1937	242	15	1254		383			1897	173	372	4336	391393
1938	216		941		425			2179	221	588	4570	416784
1939	294	4	1119		494			2389	245	548	5093	459485
	REGION 7											
1928	4700	300	40		4500		100	2500	700		12840	714240
1929	7100	1100	600		2100		600	1200	300		13000	605505
1930	6500	300	635		500		800	2300	200		11235	598055
1931	19800	100	34				1600	2500	900		24934	689534
1932	10300	200	25				1100	2200	900		14725	540025
1933	13030	86	27		4332		1223	2140	1304		22142	735823
1934	39259	1200	37		6834		4913	2577	1132		55952	691319
1935	16606	1538	33		6035		3506	1919	724	1	30362	729270
1936	16727	1428	51		5176		3105	3092	1176	13	30768	708308
1937	16939	1770	95		7000		4386	2383	912		33485	742868
1938	16845	1737	102		4985		5206	3432	1102		33409	826111
1939	16923	2287	105		4544		4966	3306	1224		33355	835361
	REGION 8											
1928	6400	-	2000		900	4500	100	-			13900	526100
1929	2300	-	500			1100	200	200		-	4300	653100
1930	1900	-	1900			3800		800			8400	690100
1931	4300	300	2000			6600		800	-	-	14000	845800
1932	1300	200	2000			5500		600	100	-	9700	578400
1933	1824	126	706		841	2654	63	656	183	13	7066	446689
1934	2247	3200	2352		632	1351		1093	61	268	11204	584150
1935	2813	3638	2137		507	1031		782	241	100	11249	693254
1936	2493	3504	2167		1315	1183		1369	468	296	12795	560319
1937	1775	4570	2744		585	877	5	2156	361	260	13333	619012
1938	2204	4174	2916		729	722		2278	370	235	13628	634517
1939	2349	6707	3190		706	1398		2357	364	261	17332	694222
	REGION 9											
1928	3900	2000				10100		900	-		16900	909600
1929	37600	300	500			1800		1100	200	-	41500	720100
1930	6500	1000	1000			13400	-	2000	800	-	24700	630500
1931	7300	1200	100			11900		3700	1200	-	25400	608777
1932	6000	1200	400			6600	100	3600	700	300	18900	615443
1933	6504	1816	200		301	10093	729	3048	692	1185	24568	718408
1934	6446	2000	56		82	8838	433	2312	247	51	20465	697461
1935	6602	2216	221		454	8246	735	4097	405	62	23038	817640
1936	8382	2117	200		502	16163	906	6488	1198	289	36245	1115157
1937	10507	3089	4520		194	12380	103	6379	1019	282	38473	1075390
1938	10505	2354	1785		208	14655	149	6824	1137	278	37895	1600985
1939	14508	4764	1534		210	15011	136	7290	1106	231	44790	1461515

APPENDIX D

PRODUCTION ACCORDING TO REGIONS AND PRODUCTS

	CEREALS											PULSES								
	Wheat	Barley	Oat	Rye	Spelt	Rice	Millet	Grains	Maize	Mixed crop of wheat and rye	Total cereals	Broad beans	Peas	Chick peas	Beans	Lentils	Wild beans	Vicia eracca	Vesc	Total pulses
REGION 1																				
1928	344432	162777	9345	9035	14906	5264	2995		22668	6205	579627	1871	160	2407	6640	2135	16	5696	22521	41346
1929	722356	386402	12182	65616	40687	13971	7338		63781	13831	1326174	182	66	6648	7722	3279	121	4818	30533	53367
1930	672365	235770	7153	30847	15083	3360	2027		61050	26525	1054180	366	50	7614	10681	4602	58	3350	38861	65782
1931	825399	469826	12563	25063	11655	7402	21521		79983	23836	1477248	179	-	6806	6636	4466	69	2824	31337	52317
1932	411616	162882	8992	12393	7054	9068	2453		45504	493	660455	218	-	5466	8949	3445	10	5054	12856	33998
1933	730761	317337	15016	17047	18045	8239	2410		57265	3814	1169934	192	-	3981	6191	3989	100	4111	24384	42928
1934	637752	370965	20379	16560	5745	5668	1078		70240	5254	1133641	678	-	5555	6396	3489	339	19030	32674	68161
1935	517398	210627	12157	16649	6940	8611	473		24019	6882	803756	462	-	5857	4975	2855	119	3837	10939	28844
1936	810038	377706	17204	21897	7997	7664	1166		72342	21018	1337130	278	2	5740	5765	3114	135	2439	15228	32701
1937	780383	436534	21926	15305	7385	6339	1976	13	38903	12018	1320782	326	6	8504	9382	4322	120	2581	18909	44150
1938	805050	386532	22807	20344	9803	5521	1340	6	74251	24578	1350232	231	-	7805	10363	4090	91	2723	18067	43370
1939	924795	368030	23233	23767	7673	5923	1010	7	63402	27205	1445045	322	-	7505	9105	3971	135	2456	18613	42107
REGION 2																				
1928	276479	166217	12657	27056	4712	380	18413		78144	1923	585981	19680	11	6655	5710	344	2732	5	19452	54589
1929	351545	357555	21611	48954	3989	69	21989		122086	2050	929848	25278	123	17368	5269	300	4678	74	35257	88347
1930	287348	366241	37708	44196	6875	-	8244		59714	6240	816366	26838	27	9775	3520	799	3925	672	26595	72152
1931	269959	234635	23536	48580	5511	1190	19919		78839	13286	695465	31250	133	9520	5411	1042	4021	405	22146	73928
1932	257993	245911	48705	42906	13679	428	8055		64090	6703	690460	29469	2345	9468	3776	945	2428	389	15364	64184
1933	466433	401332	53732	58709	8525	1486	16028		82418	12012	1100675	41673	391	12675	3973	1324	3260	977	26003	90276
1934	359682	254122	26686	47097	6334	2512	12480	109	67871	11685	788558	34348	277	15960	4096	547	3328	109	18373	76878
1935	351430	264251	31152	45184	7767	1405	10702	20	74833	9493	796237	38254	318	10785	2712	579	2096	99	14810	69653
1936	472209	285386	24179	58944	4329	6028	19666	196	122613	10984	1004534	31070	278	15299	6603	816	2788	377	18615	76046
1937	519176	341762	53808	63971	7385	1867	12357	243	99955	19218	1119742	56886	224	15843	6010	821	3939	241	24619	108583
1938	560226	391844	54437	63293	8457	1001	15599	203	80041	24422	1199523	53532	190	12850	6266	806	3181	163	24053	101041
1939	514793	343641	58251	62253	6999	878	23238	254	103008	15544	1128859	57646	379	12886	6378	716	2939	143	25829	106915
REGION 3																				
1928	99206	69544	27296	19545	11482	1435	1538	-	40450	70	270568	3017	53	1677	1638	191	32	132	8686	15426
1929	98843	69231	65912	37197	11260	2296	3373	-	93973	-	382085	2996	11	1853	3462	154	1	136	8679	17281
1930	166868	135494	52525	58580	24747	2870	2287	-	89256	2984	535611	2522	8	4921	4145	1212	91	104	11111	24114
1931	125540	99418	35464	50408	18090	3948	3989	-	65947	2727	405531	5923	164	2964	3369	478	75	163	10111	23237
1932	122796	97623	38781	32813	11545	5089	2159	-	77711	1806	390323	9684	195	1959	3229	735	523	102	6514	22941
1933	234458	133851	74517	52772	18512	7473	2642	-	126107	2044	652376	10631	270	3698	4137	902	196	122	9259	29216
1934	117825	71293	38820	19252	12794	7111	433	1784	69853	2603	341168	7322	573	3364	1753	193	25	173	2464	15867
1935	280263	145803	101239	47345	18331	4404	1442	5483	123560	1327	729197	64632	564	4668	5678	427	36	292	5680	81876
1936	356178	197043	77633	55654	19519	10806	3666	14665	183948	2775	921887	12031	805	4570	6064	630	166	459	8343	33066
1937	267864	117821	65488	40981	22182	6526	4026	18052	128080	2775	673795	6270	603	5018	5470	408	251	603	8914	27537
1938	337038	131747	75520	42892	22883	6807	1174	16160	94984	3416	732505	7429	614	4240	4453	330	88	258	5724	23136
1939	339107	116188	81411	46827	20540	10041	1505	19963	144177	2208	781965	7714	539	4536	4488	355	138	298	4471	22539
REGION 4																				
1928	226192	116683	18234	6705	-	4471	12220	-	18567	3385	406457	1221	10	3083	1887	1779	710		7020	15810
1929	313325	228014	23590	13341	-	5784	6934		38945	3643	634376	1444	12	2084	1893	2626	1334		17642	27035

1930	201165	169076	31432	9022	-	8685	5128		12888	1822	439218	1031	218	9364	5002	6066	1981		25251	48913
1931	271872	241696	25635	32397	-	13971	20810		22711	3796	632096	3662	143	23360	21119	26284	2673	4	7802	97047
1932	168737	239584	11915	10916	-	14391	13817		19837	5848	485045	6653	80	9339	4771	1836	654	50	4986	28366
1933	214861	173068	43865	14526	-	12370	2750		18638	14664	494542	5008	33	1555	2648	3490	288	21	5759	18782
1934	330820	261929	51045	24291	-	22227	10999	333	28163	31379	761186	13993	24	3032	4655	4338	1040	980	8059	36121
1935	309441	284925	71348	14375	-	42287	7684	328	21384	13291	764061	842	3	2962	4581	7110	490	9	5519	21516
1936	263388	196116	61642	16720	-	25129	7748		19105	16274	606122	3358	295	2255	6927	5502	448	11	8000	26796
1937	278048	170584	57521	14697	-	11642	12236	1	30759	17228	583516	1600	38	3126	4973	4326	912	5	3368	18248
1938	337693	168917	67669	21917	-	14441	11914	91	28398	15164	666204	1995	117	4149	5953	6659	949	5	5243	25070
1939	320430	210197	78703	22226	-	16063	10346	262	24423	22528	713106	1605	135	7004	7732	7252	776	7	6965	32356
REGION 5																				
1928	99211	86173	46	6692	23	174	579		610	160	193658	372	26	169	346	535	10	1271	646	3375
1929	216124	174326		16010		302	2281		1463		410506	618		6	603	599		115	7	1948
1930	103289	106993		10872		114	556		1265		223089	451	23	250	683	428		2345	141	4221
1931	194636	80609	20	10080		85	726		3081		289237	199	18	548	851	566		1133	1278	4594
1932	179330	71349	1	7752		64	302		3164		261962	35	156	133	179	86		1445	164	2196
1933	120431	66010		4646		653	127		802	2130	194799	369	54	1525	475	441	30	1385	300	4579
1934	153317	82092	68	10743		2160	3827	1	3928	325	256461	86	586	539	981	1075	2	1244	1102	5815
1935	137221	92986	114	6405		491	133		1349	624	239323	19	2	297	775	121		1294	92	2600
1936	282510	290156	683	31025	30	4	309		1078	1249	607044	257	57	176	1296	203		2825	94	4907
1937	390534	266436	41	37385	11	1289	92		5086	260	701154	22		595	5595	927		854	72	8065
1938	394307	330845	164	18005	13	2926	126		7093	341	753820			675	2623	963		1375	60	6696
1939	282448	306208	81	16914	10	790	156		12997	333	621937		200	834	1775	808		1215	74	4906
REGION 6																				
1928	77336	26907		6705		3887	9763		469	3867	129014	269		1379	557	1491		-	565	4261
1929	161097	89999	3	9489		10269	76357		1027		348241	158		5310	1090	3187		87	3953	13765
1930	209600	106384		5255		1639	11502		279	12	334759	121		2290	1298	2742			1729	8181
1931	258276	143022		3385		3253	48466		410		456812	966		2272	102	2844			2957	9141
1932	164425	89698		3610		3220	47373		793		309119	194	6	1896	827	1805			1723	6451
1933	147405	51584		6041		3046	14440		1256		223772	43		1803	275	1816			1365	5302
1934	197852	93618		1176		7908	14120	10	645	345	315674	120		6790	410	3535	-	-	2542	13397
1935	220295	84066		795		9507	10175		306	565	325709	97		7562	131	2862			2956	13608
1936	227087	129731	7	1110		10747	7404		171	320	376577	261		7814	103	4007			2818	15023
1937	238114	115883	20	1845		1806	7803	14	196	445	365926	10	10	10942	182	9081			3262	23487
1938	271667	116465	103	2072		2236	7242	12	256	400	400453	11		7132	220	7864			4704	19931
1939	359411	141775	126	1638		3098	7997	16	321		514382	22		7666	245	7376			6890	22199
REGION 7																				
1928	153526	120081	7417	10725	37980	4521	988		226842	2432	564512	1155	513	563	35820	520	300	4104	2004	45079
1929	152174	106316	6982	12307	40596	6934	1306		246218	3283	576096	1495	336	341	58182	200	612	1748	698	63612
1930	199423	169913	21827	33054	37460	5917	11570		225109	7828	712101	902	11658	508	37718	1480	33	10731	2977	66007
1931	189185	161824	12824	43733	35462	7771	12088		275893	8314	745094	1936	388	787	41663	759	126	9705	2686	68050
1932	130814	122930	6423	20271	27262	14315	8800		190780	45299	566894	1399	64	1478	20007	1327	173	9299	2162	35909
1933	162905	151374	11003	18860	85755	12665	7639		230989	8637	689817	3359	491	2918	17111	2034	70	7835	1795	36413
1934	163577	163898	10502	31035	62321	23435	4604	5	223338	15552	698267	1652	1498	2302	70604	2135	87	11320	4242	93840
1935	111184	70394	9619	11810	26610	21181	1266	40	176482	16596	449184	470	598	1171	27984	940	124	10407	4236	45930
1936	207651	155089	17127	26546	47324	9665	4786		246886	9543	724617	1129	593	2178	18394	1111	76	14467	6888	44836
1937	216660	168079	13821	21908	53875	5767	3179	5	206430	10272	699996	951	383	1274	18509	643	99	11930	6226	37965
1938	272799	184970	22527	26497	73168	11290	4743	12	249073	10930	856009	1171	401	2598	21259	690	53	12080	6571	44823
1939	284659	193581	19048	28468	68683	9515	4538	20	215898	13337	837747	1670	363	2677	20179	836	64	16521	6931	49241
REGION 8																				
1928	226744	108360	2808	3472	205	468	3074		27735		372866	791		1983	1493	717		5048	3802	12934
1929	355704	134204	2066	5733	1128	731	2300		38003		539869	214		3511	2014	2449		2355	3547	14090
1930	325722	123140	3254	4088	515	550	840		11797	275	470181	260		2087	1269	998	81	4946	4423	14044

1931	288129	177339	4660	23360	442	79	1617		26349	629	522604	1288	38	4530	2020	3399	117	4383	4180	19955
1932	250998	102277	7895	11475	146	511	756		16955	572	391575	783	15	3423	1540	3177	21	7706	11103	27770
1933	280277	125868	6575	5175	396	533	739		20752	532	440847	1333	-	4288	3123	2899	19	13630	10342	35634
1934	364335	179742	3142	9277	203	1133	1576	110	16666	540	576724	917	16	4750	1757	2976	75	10768	12025	33284
1935	313981	113381	1912	12558	428	1957	1107	30	27278	1366	473998	565		3635	1543	2440		4429	5552	16164
1936	428609	292915	2171	15365	551	1800	651	71	14861	1771	758765	343	3	3287	1559	2207	14	5739	3636	16768
1937	450867	236352	1790	6836	273	771	555	15	25324	863	723646	583	2	6368	2426	1798	65	7649	6818	25709
1938	496007	270144	2147	11473	520	792	687	67	20488	1751	804076	654		7230	2122	1816	108	5903	6143	23974
1939	606080	320390	2570	12834	509	1861	988	27	23223	1223	969705	922		13637	2213	2544	82	7111	5581	32090
REGION 9																				
1928	137946	43305	617	19762			607		2101	906	205244	280	279	1208	1426	1170		398	2423	7182
1929	346975	152367	8904	122455			186		17715	3896	652499	438		11850	2087	1787		2762	16894	35826
1930	420509	123578	9220	114574			1084		9386	21248	699599	542		11308	2411	1994	2	3133	15406	34794
1931	569635	196189	3054	220689			174		10542	2288	1002571	83	42	9421	6348	1392		3312	14818	34416
1932	249101	135360	3050	71515			204		7530	2933	469693	75	1	8247	3452	1031		3230	11996	26032
1933	313681	178069	2935	86477	354		28		11419	3285	596228	362	1	6307	3700	1752		2209	11991	26322
1934	388572	194689	8162	84154			870		8389	6455	691291	177	2	7895	3087	1702	16	1750	13448	28077
1935	281064	105078	4449	61001					5122	2647	459361	214		4091	3152	1357		407	9320	16541
1936	691947	367596	14838	219979			124		10925	35663	1341272	41	14	6939	4361	1803	30	2492	22275	37955
1937	526777	322863	20304	157803	97		88		5331	49481	1082724	62	12	7298	4080	1455	488	1467	10400	26242
1938	781020	401751	29421	200174	99		103		6214	50667	1469649	66	15	8100	6351	1672	313	1540	15368	33425
1939	535870	287554	20484	192976	98		138		9553	56892	1103565	172	14	11363	7266	1931	581	1132	16928	39376

APPENDIX D (continued)

	INDUSTRIAL CROPS																
	Potatoes	Beet	Cotton/ pure	Cotton/ seed	Anise	Hemp	Hemp/ seed	Opium	Opium/ seed	Flax	Flax/ seeed	Onions	Garlic	Sesame	Total ind. crops	Grand total
REGION 1																
1928	9694	43865	867		225	-	-	-	244	59		688	59	139	55840	676813
1929	10150	33861	1168		-	-	-	63	3397	902		2974	102	172	60589	1440130
1930	9832	19714	2371		72	-	-	54	4830	184		1048	84	90	38279	1158241
1931	13705	60489	1932		26	-	-	90	3359	93		3906	584	155	84329	1613894
1932	10081	50663	484		34	-	-	22	1152	587		5222	296	218	68759	763212
1933	14721	43730	600		60	-	119	56	1497	643		2580	200	94	84308	1277170
1934	92749	111071	516		81	194	80	3	621	485		9580	753	184	216317	1418119
1935	10685	57663	693		184	78	16	44	936	316		7713	194	120	78642	911242
1936	21298	134504	659		45	86	90	70	4016	60	554	3339	158	170	165049	1534880
1937	11534	127960	1184	1500	71	270	170	47	2647	22	370	6309	418	302	152884	1517816
1938	11679	98366	946	1328	65	159	202	17	1679	43	392	8189	331	525	123921	1517523
1939	19703	122755	986	1217	83	265	410	8	2277	46	447	9047	508	545	150377	1645529
REGION 2																
1928	4361	3918	18067		91	-	-	-	1211	332		13837	1282	13092	56191	696761
1929	8341	239	24620		-			193	3789	4853		28914	3152	17253	91354	1109549
1930	10148	245	13180		169			193	10055	200		6562	1823	12262	62837	951355
1931	5685	271	12248		217			169	10206	984		22664	6068	8538	67050	836443
1932	7521	1485	4498		191			15	1679	164		6060	4135	10818	36564	791208
1933	8620	271	9244		402	689	671	115	4404	1087		24835	5781	8902	65021	1255972
1934	11802	666	9807		480	2281	208	61	1377	633		15764	1760	9832	54751	920187
1935	7487	566	11735		140	1795	777	82	3001	909		19766	3569	8070	57897	923767
1936	14706	1138	30815		2094	3153	792	143	5006	301	1148	31444	4069	19009	113818	1194398

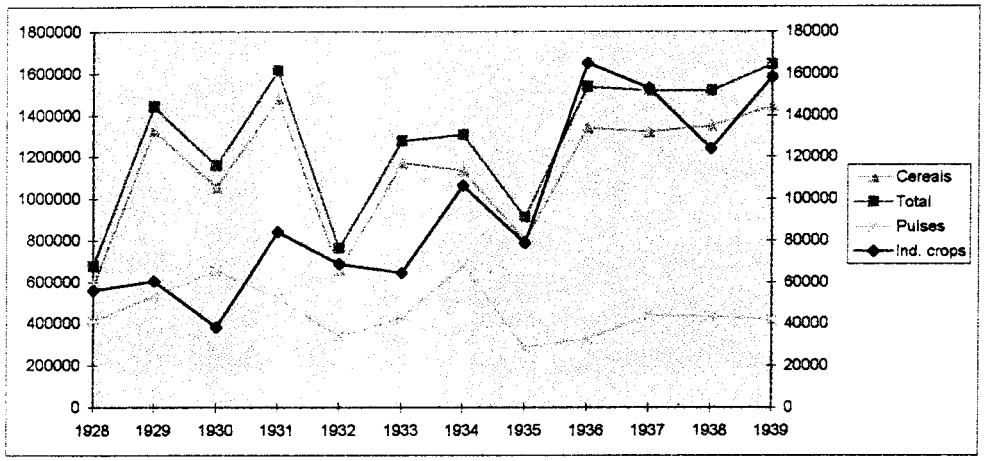
1937	12207	707	22189	56444	225	4377	786	38	1317	270	1425	29402	6002	9808	145197	1373522
1938	13193	676	25095	54013	1581	3110	784	65	3080	67	660	32094	8314	9810	152542	1453106
1939	19615	16543	25986	56137	2313	2640	1093	71	3149	141	1538	34479	7190	14715	185610	1421384
REGION 3																
1928	8088	16534	77		79	-	-	-	84	2253		11125	1135	1855	41230	327224
1929	18494	17915	86		-	-	-	322	22	4100		11805	416	983	54223	453589
1930	16486	65703	115		134	-	-	38	668	2862		23359	686	2853	112914	872639
1931	15109	108460	129		150	-	-	14	1132	2530		9675	282	1430	217919	646687
1932	3334	89576	109		96	-	-	3	102	3756		10463	253	2948	110640	523904
1933	7400	129606	569		78	-	-	2	35	3747		20882	392	3673	166384	847975
1934	5031	201232	25		67	3	1	2	-	683		4286	179	2183	213692	570727
1935	13678	300409	101		10	-	-	12	808	4011		9521	262	2283	331096	1142160
1936	18765	153096	690		36	6	12	9	432	28	4927	41083	1823	10071	230978	1185933
1937	29271	85240	314	557	29	165	22	3	158	3317	6197	16063	1005	3888	146232	847564
1938	18628	83254	326	316	48	75	7	5	258	1512	6704	22524	1930	1870	117457	873098
1939	26820	227054	537	765	64	5	20	5	466	2457	9302	25751	2408	9137	305582	1110096
REGION 4																
1928	1374	350	53287					-	306			3119	568	14165	73169	495436
1929	2751	810	35227					2	66			2782	1707	12526	55871	717282
1930	14164	299	32788					2	37			4187	1612	13017	66106	554237
1931	16419	565	44801					8	1			17455	4406	18579	102234	822177
1932	5627	1278	12177					-	8	-		6976	2688	5867	34621	548034
1933	1640	80	16374		10	6	3	-	-	3		5476	284	13359	37235	550559
1934	5798	68	26636		1	17	18	-	12	29		9308	1129	12676	55692	852999
1935	4382	90	36843			58	65	-	-	13		8211	568	9213	59443	845020
1936	16368	334	29419			44	15	-	-	-	12	6765	512	9863	63332	696250
1937	13330	823	39952	72845	-	36	12	-	-	-	5	11124	1354	10229	149710	761474
1938	19489	1534	34724	106542	1	185	1421	-	-	-	35	11270	1311	13063	189575	880849
1939	17394	734	32995	91555	20	78	126	-	-	-	70	10881	1440	8864	164157	909699
REGION 5																
1928	3592	16	1221									1056	31		5916	202949
1929	20290	68	610							5		928	58	4850	34809	447263
1930	12024	175	1471							4		1133	62		14869	242179
1931	4936	84	1200									4747	1		10968	304799
1932	4067	510	1600							33		1900			8110	272270
1933	4824	65	656							-		3132	1		8678	208056
1934	6211	68	165							9		1169	84		7706	269782
1935	3138	86	1230									920	64		5446	247369
1936	4823	175	-		-	-	1			-	1	311	86		5397	617348
1937	26688	40	2600	7200						30	18	2861	220	163	39820	749039
1938	23566	35	2620	7240						-	17	2893	213	189	36773	796189
1939	59000	40	1032	3400						-	56	3979	294	120	69523	696366
REGION 6																
1928	786	188	411			-	-		1			587	39	150	2142	135417
1929	18		945			-	-			1		708	25	1161	2858	364884
1930	304	268	927						1			3761	87	564	5912	340852
1931	57	262	164					1	12			3155	74	1691	5416	471369
1932	258	528	48						1			3247	100	1285	5467	321037
1933	796	837	236			1149	3					2244	79	627	5971	235045
1934	2170	231	241			1072	18					3328	100	624	7784	336855
1935	1208	220	948		1	873	5					1239	80	95	4669	343986
1936	710	123	292			1083	12					1861	206	83	4370	395970
1937	667	68	289	206		787	10					2649	175	186	5037	394450

1938	582		140	144		471	60					4277	380	462	6516	426900
1939	876	5	299	721		574	5					4378	418	482	7758	544339
REGION 7																
1928	13645	1444	3						2	126		9865	1387		26472	636063
1929	21307	1433	179							401		5211	1688		30219	669927
1930	18901	2369	304							347		3627	985		26533	804641
1931	17830	292	2						2	621		5793	770		25310	828454
1932	12113	376	3						11	291		4641	822		18257	621060
1933	28392	169	10			3612	1541	2	70	1248		10021	1476		46541	771771
1934	50390	30246	3			3985	4228			419		6351	1336		96958	889065
1935	31502	1745	7			2656	126			495		6323	983	7	43844	536958
1936	44951	29770	3			9202	582			1858	1225	4749	1369	-	93709	863162
1937	32198	23866	10	11		3302	412			578	384	2941	944		64646	802597
1938	33821	22682	20	13		2964	482			635	626	4863	1103		67209	968041
1939	40704	50284	25	11		3222	344			1065	1041	7166	1623		105485	992473
REGION 8																
1928	2485	7	2177			..	..	..	59	81		6			4815	390615
1929	10439	-	712					29	368	229		848		12	12837	566596
1930	3670	871	259					49	1464			2952			9265	493490
1931	9527	1023	1251					36	1174			7017	740	36	20804	563363
1932	6652	367	954					26	1051			1330	152	7	10539	429884
1933	17178	1506	80			879	-	30	1245	13		1398	341	6	22674	499155
1934	11486	41288	368			314	436	1	32			2296	161	63	58425	666433
1935	9935	72174	658			357	108	22	300			1776	203	40	85573	577735
1936	12407	107996	462			5269	483	19	381			3617	828	104	131566	907099
1937	13843	60984	570	1230		521	250	34	299	-	2	9932	1087	71	96823	846178
1938	13644	84890	790	1640		495	314	10	147			10584	1039	80	113633	941683
1939	15994	151437	992	1662		327	338	22	355			10647	1065	113	182952	1184747
REGION 9																
1928	5472	762						-	3106			1627	238		11205	223631
1929	25710	1551	9					54	939			7162	1299	2	36726	725052
1930	20707	1775	20					138	3392	30		6803	1356	2	34223	768618
1931	26676	5860	17					172	4409			12357	2027	8	51526	1088513
1932	24323	6974	8					30	1799	3		6731	610	10	40488	530213
1933	23290	6534	14			..	31	52	1751	179		10762	460	33	43106	665656
1934	27537	71896	1			-	450	81	2295	506		8658	373	18	111815	831183
1935	23718	12711	13			-	181	114	1532	353		9426	515	3	48566	526468
1936	43322	25230	162			154	152	185	8930	93	751	6488	443	191	86117	1465344
1937	31373	25009	162	330		89	98	86	2730	25	32	8522	685	136	69277	1177243
1938	45320	18632	57	109		96	104	149	5242	-	79	14193	3079	102	87162	1590236
1939	57525	65253	75	95		27	143	156	10069	..	40	15649	4436	72	153540	1296481

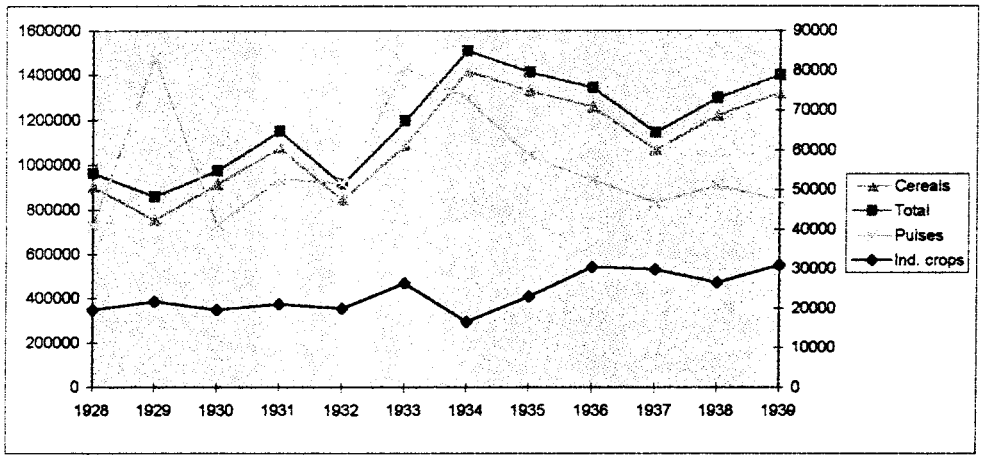
APPENDIX E
PRODUCTION, ACREAGE AND RAINFALL

REGION 1

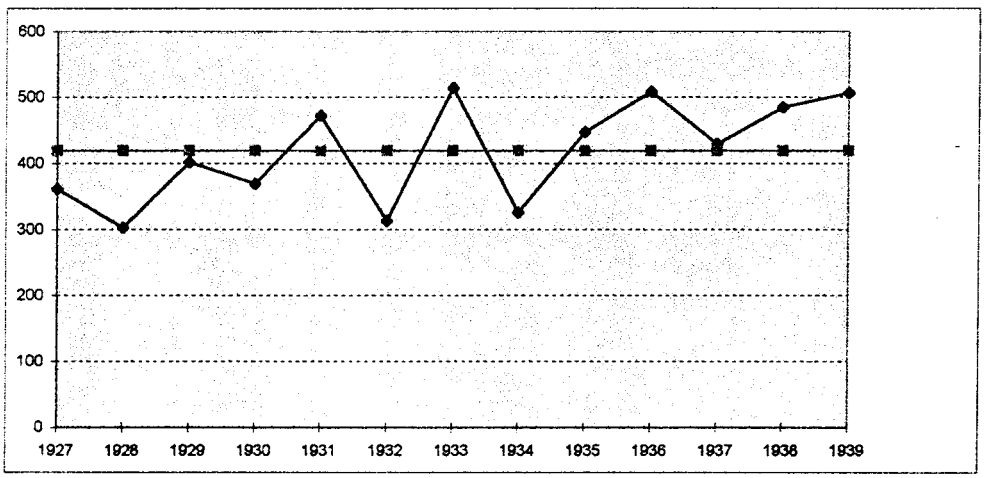
PRODUCTION (TONS)



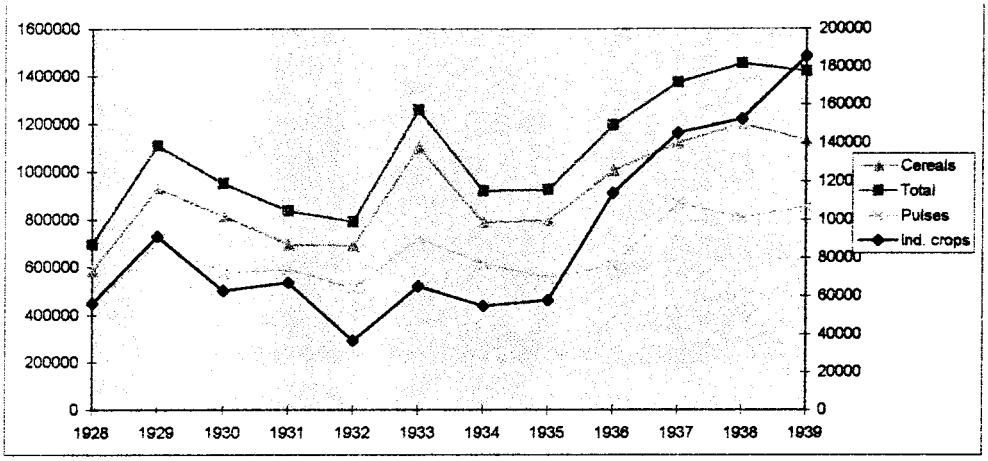
ACREAGE (HECTARES)



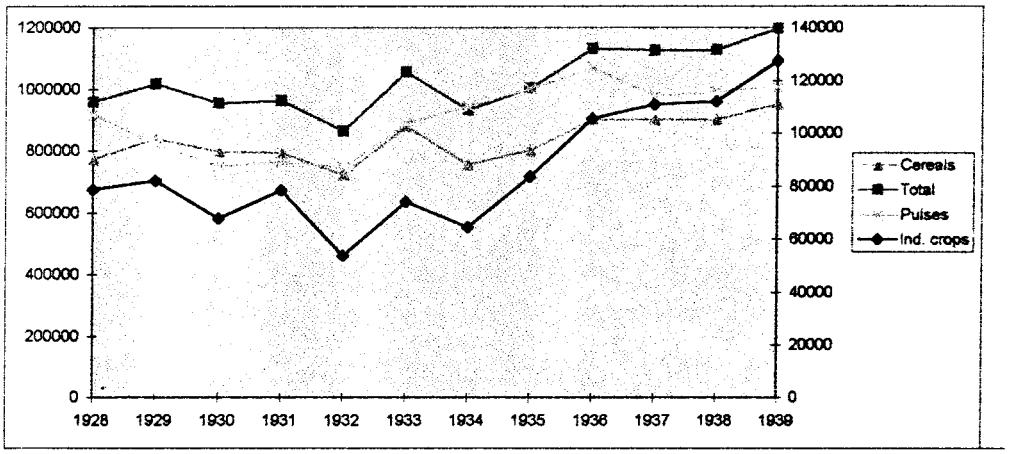
RAINFALL



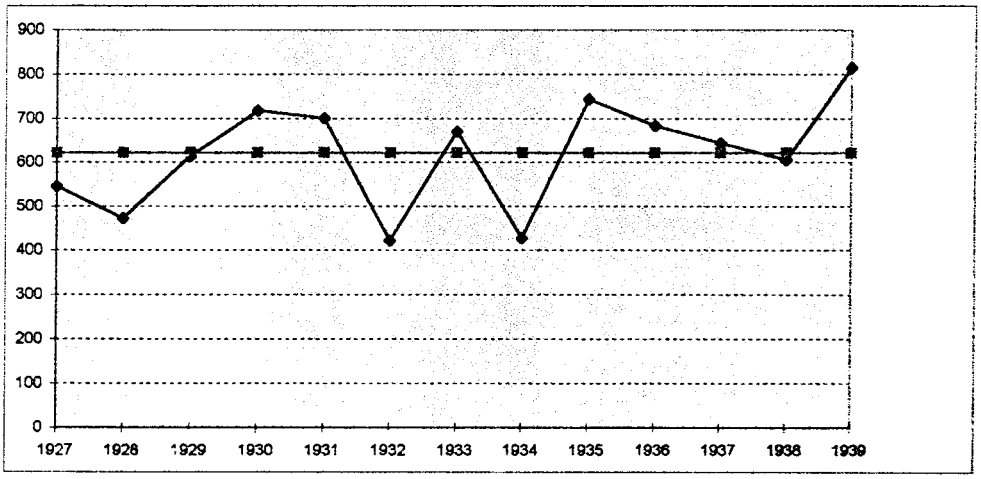
REGION 2
PRODUCTION (TONS)



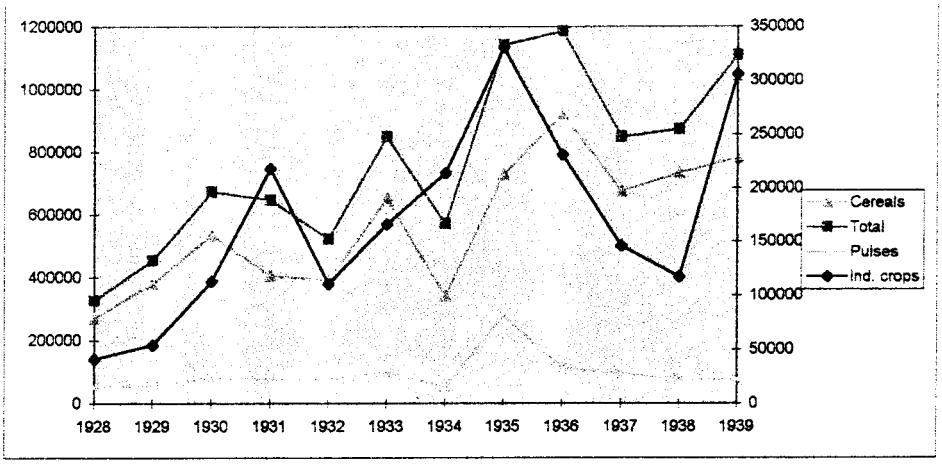
ACREAGE (HECTARES)



RAINFALL



REGION 3
PRODUCTION (TONS)



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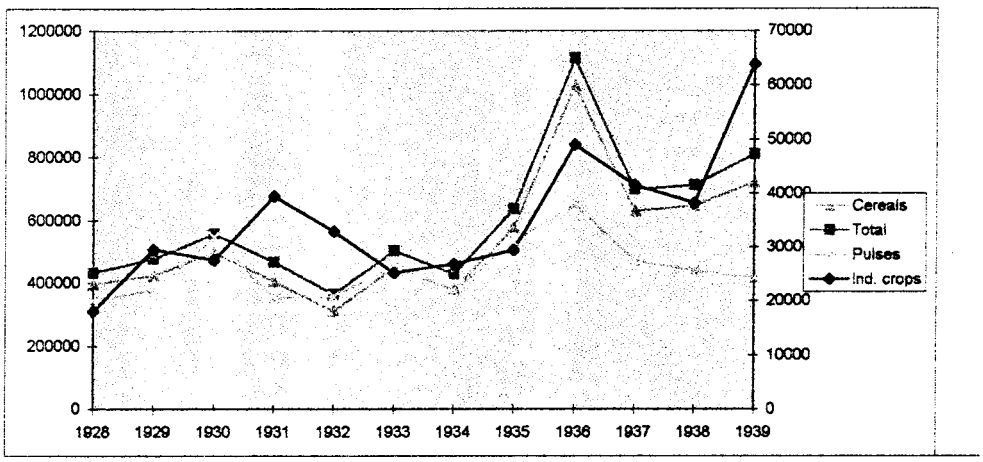

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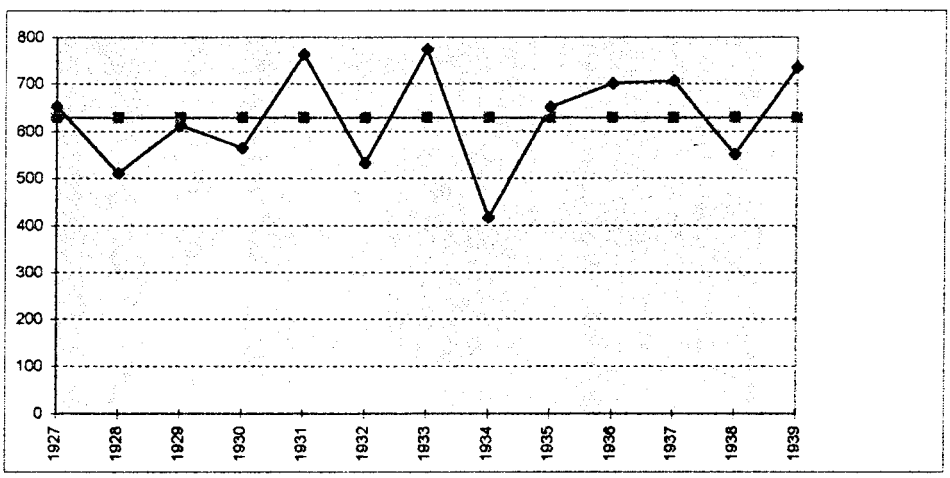
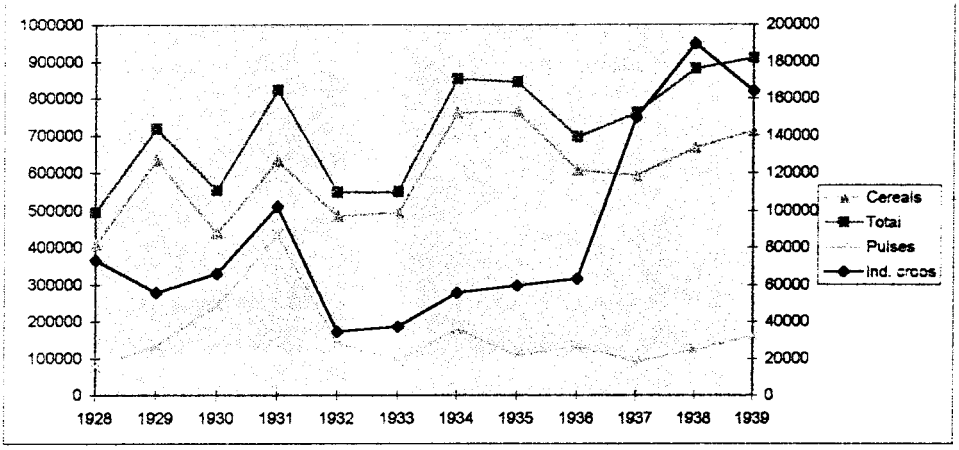
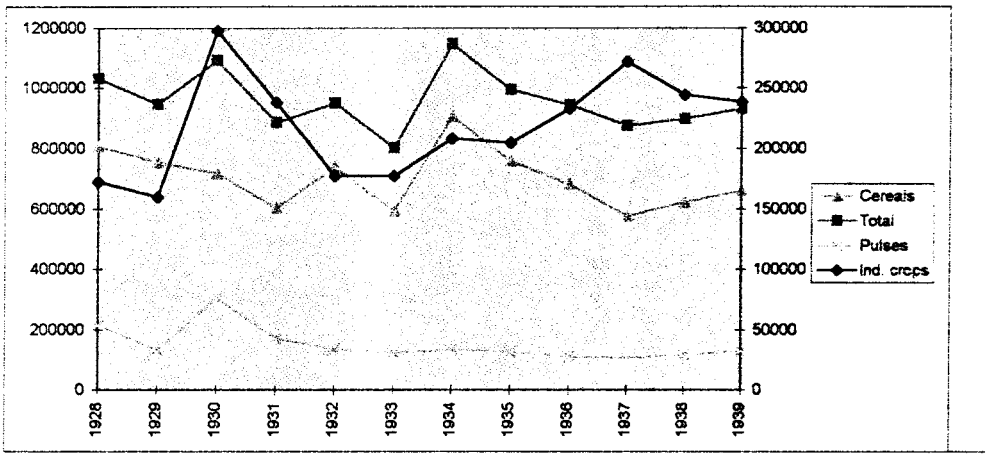


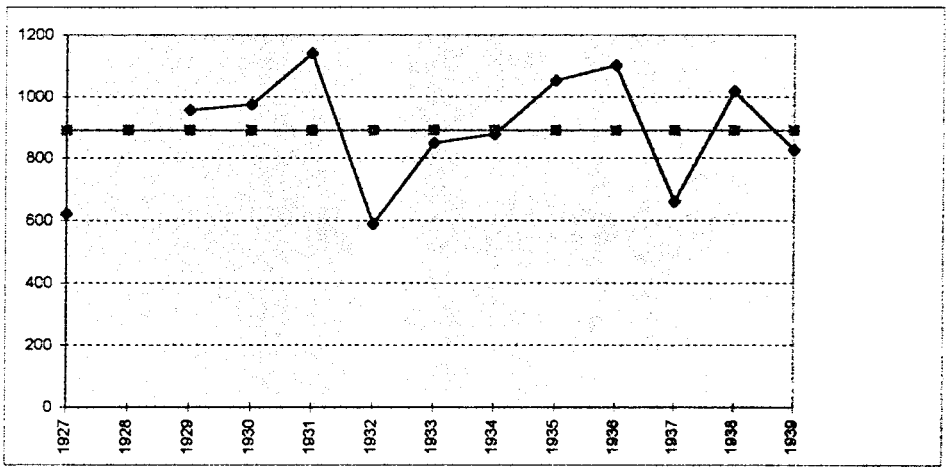
REGION 4
PRODUCTION (TONS)



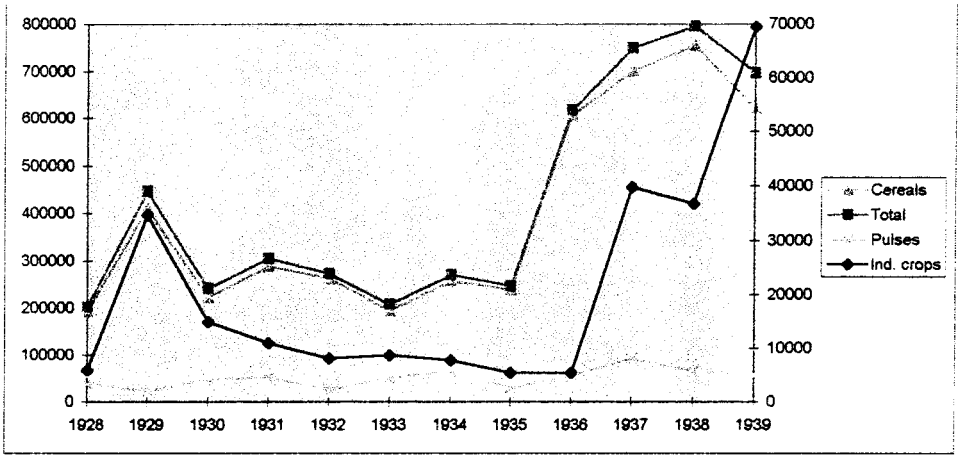
ACREAGE (HECTARES)



RAINFALL



REGION 5
PRODUCTION (TONS)



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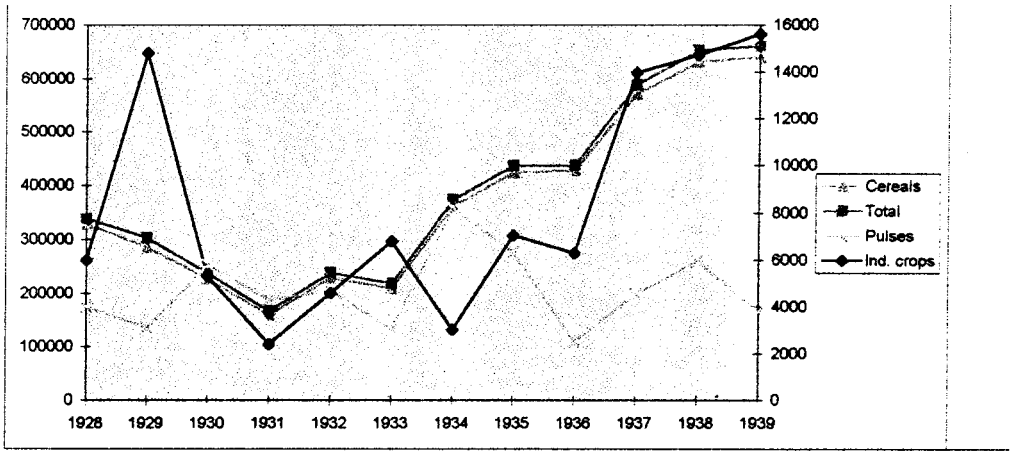

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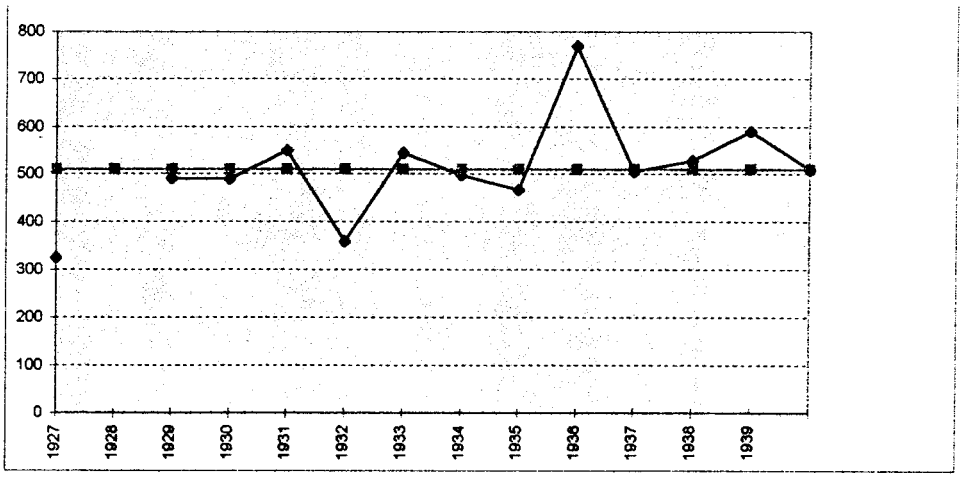

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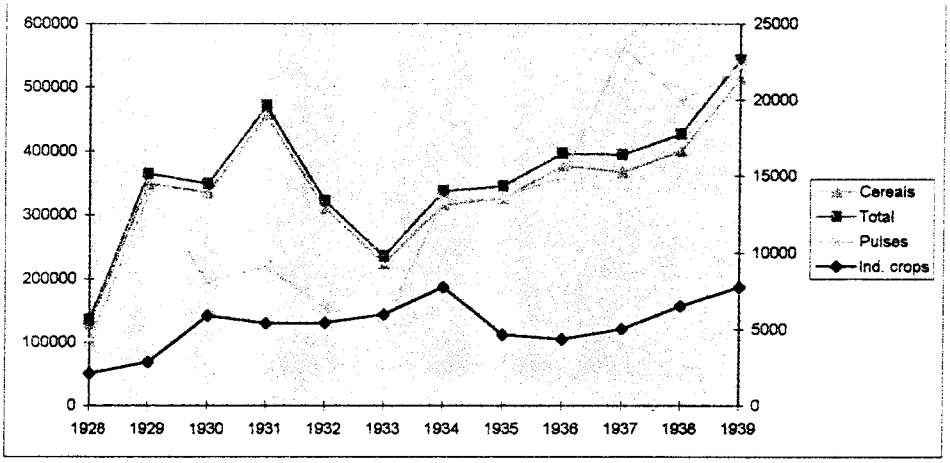

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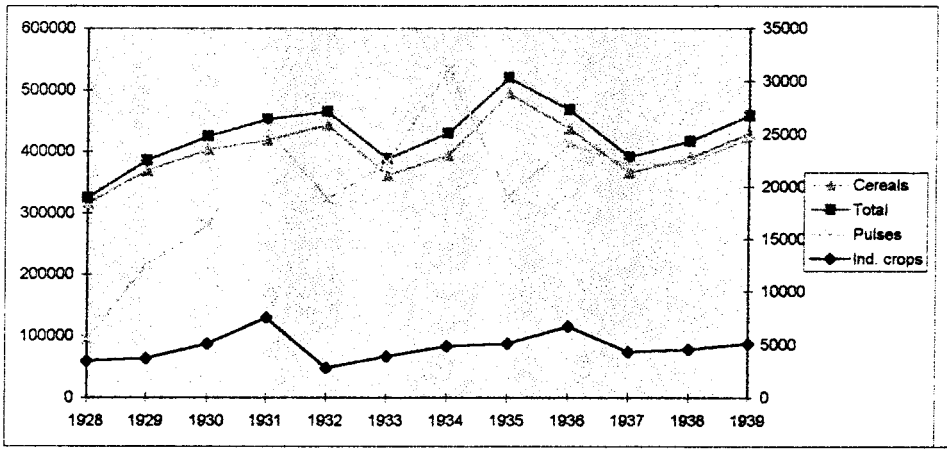

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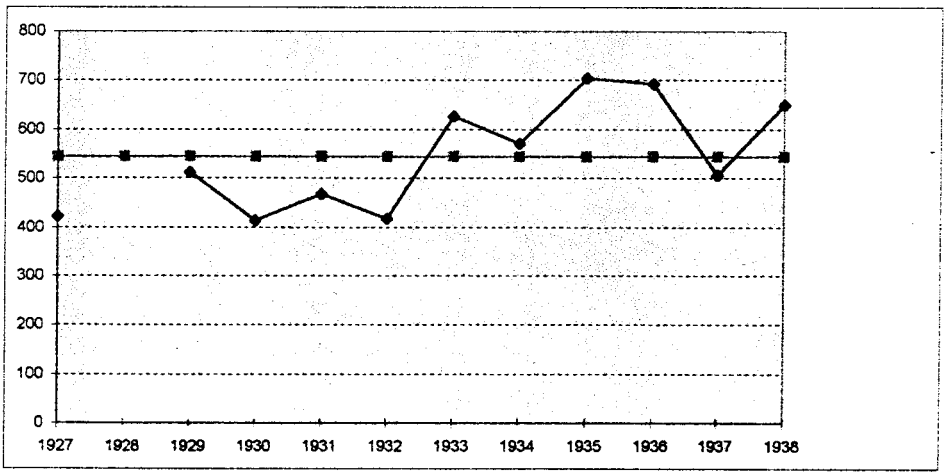

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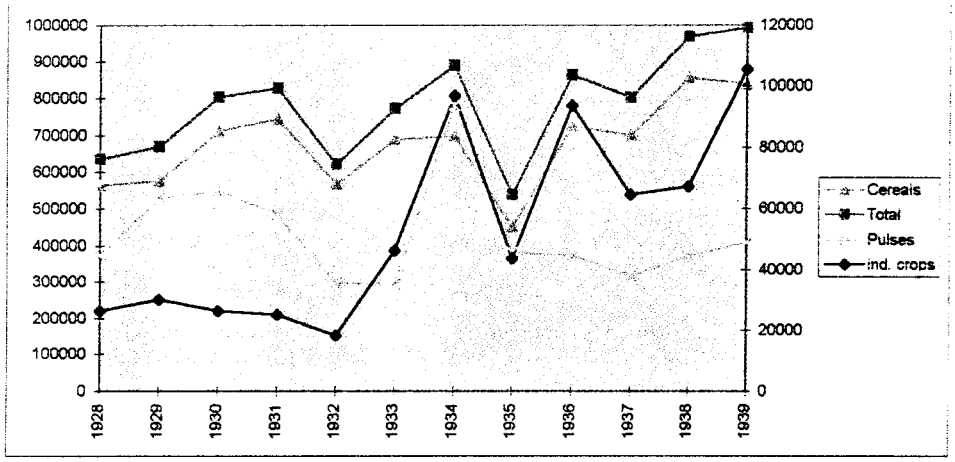

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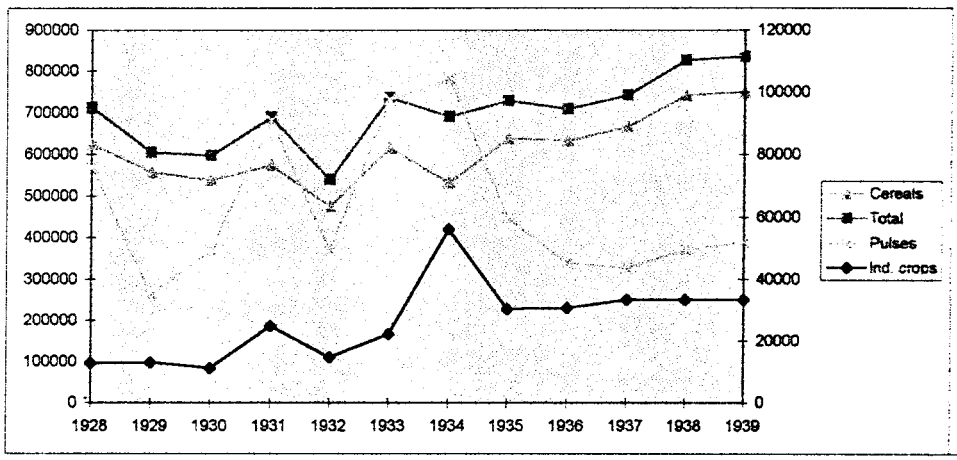

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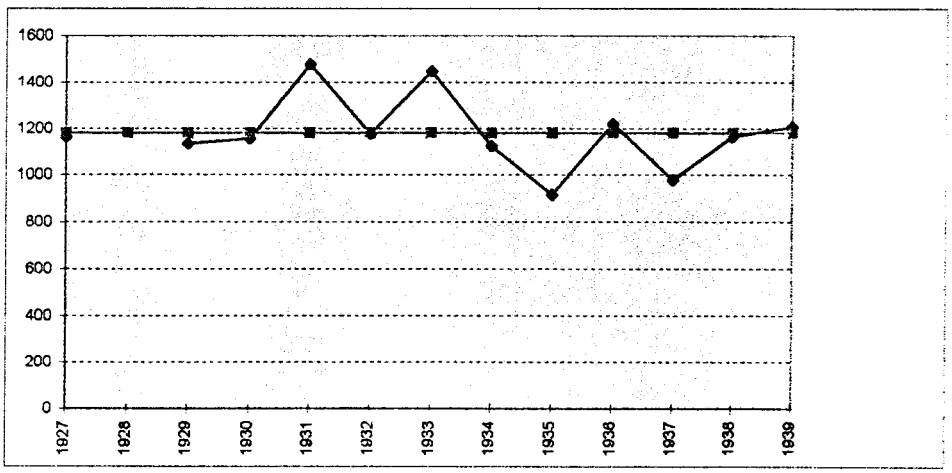

REGION 8
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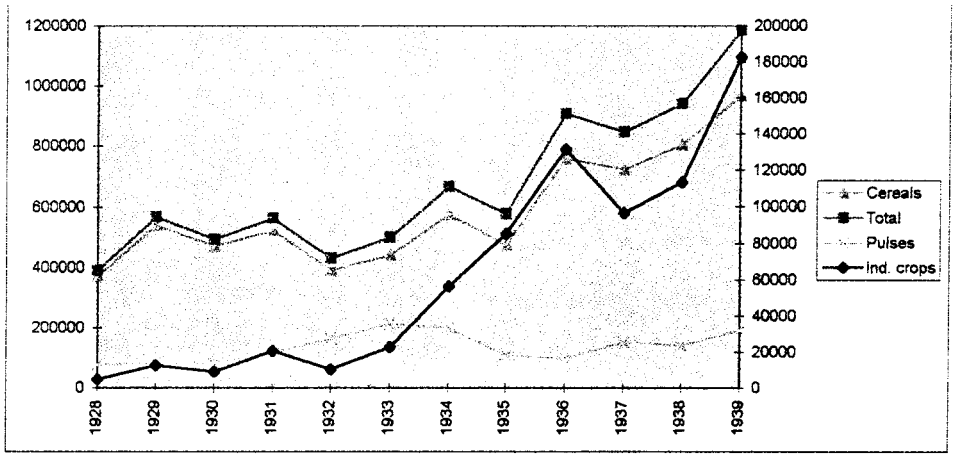

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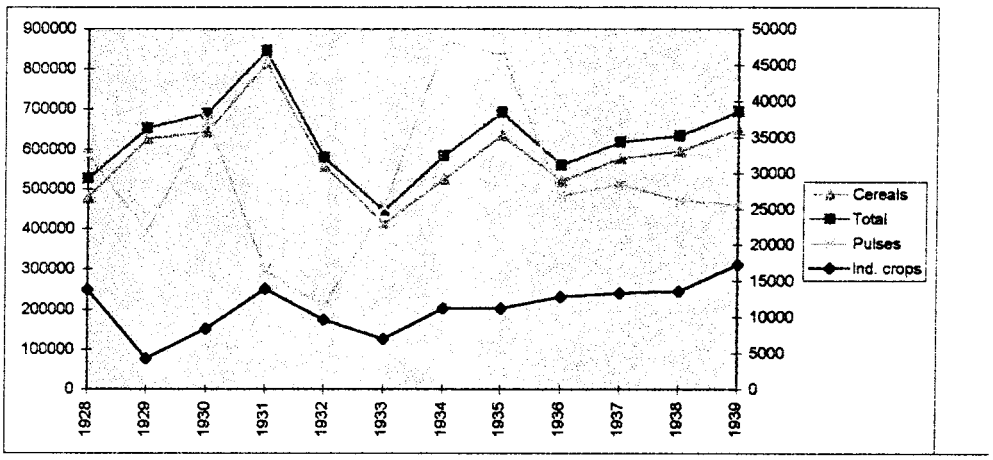

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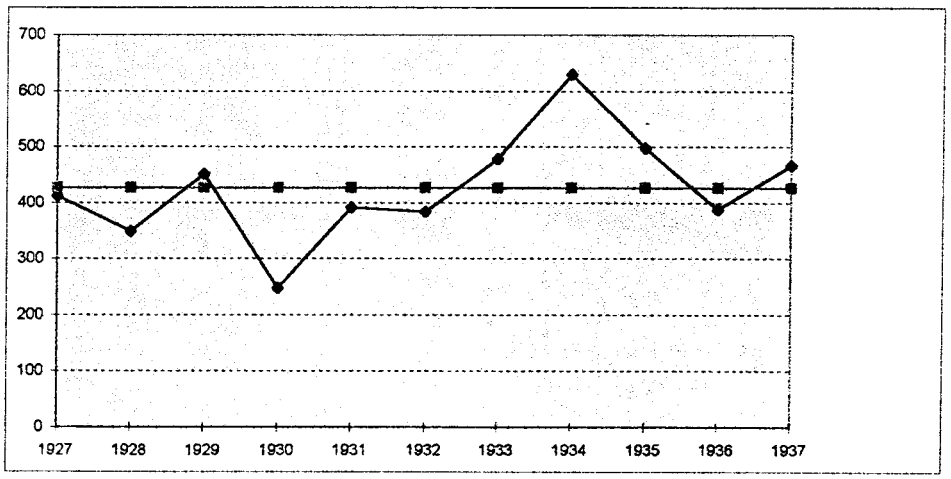
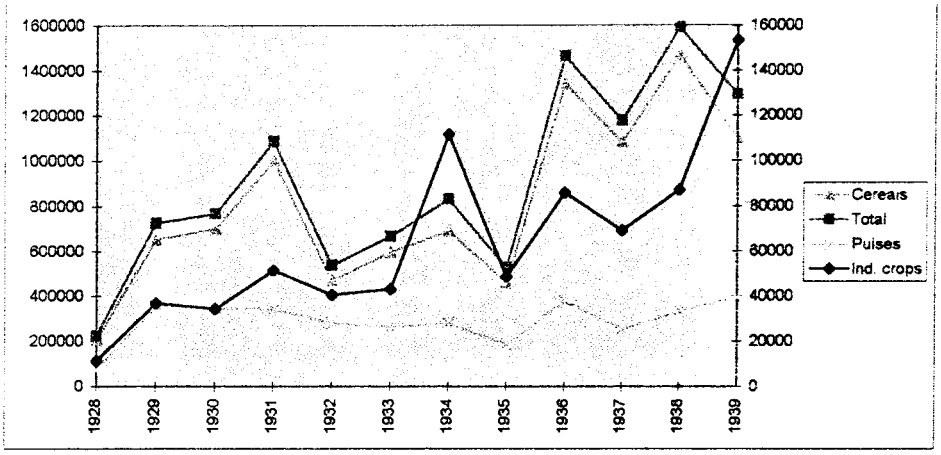


REGION 9
PRODUCTION (TONS)



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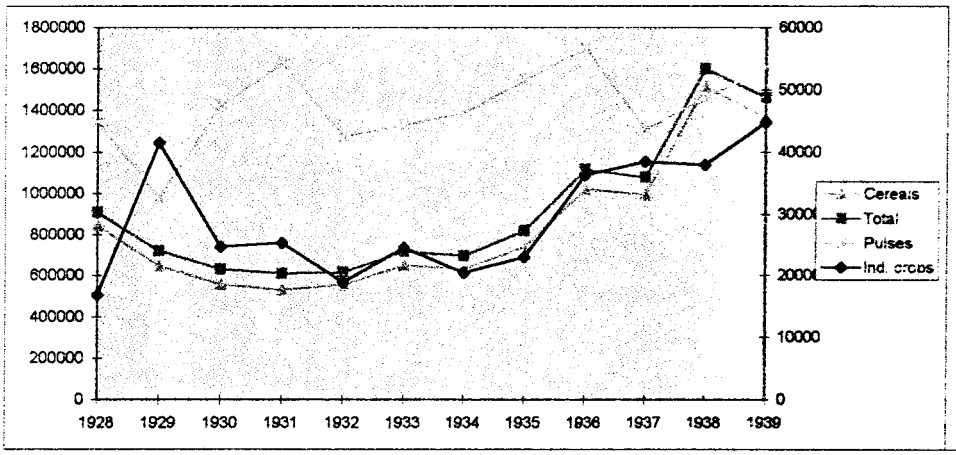

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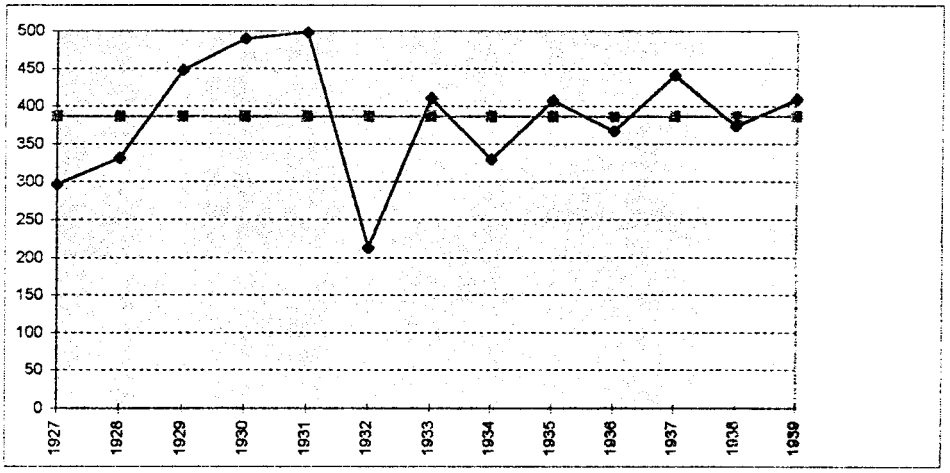
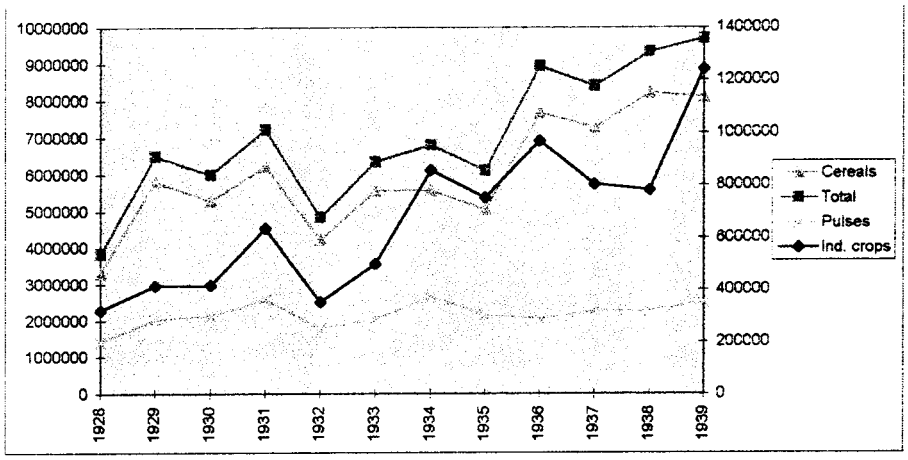


TOTAL COUNTRY
PRODUCTION (TONS)



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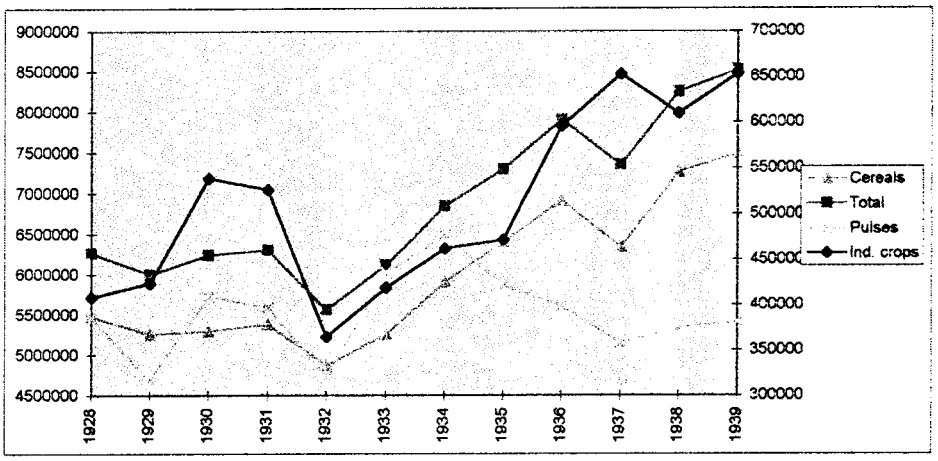

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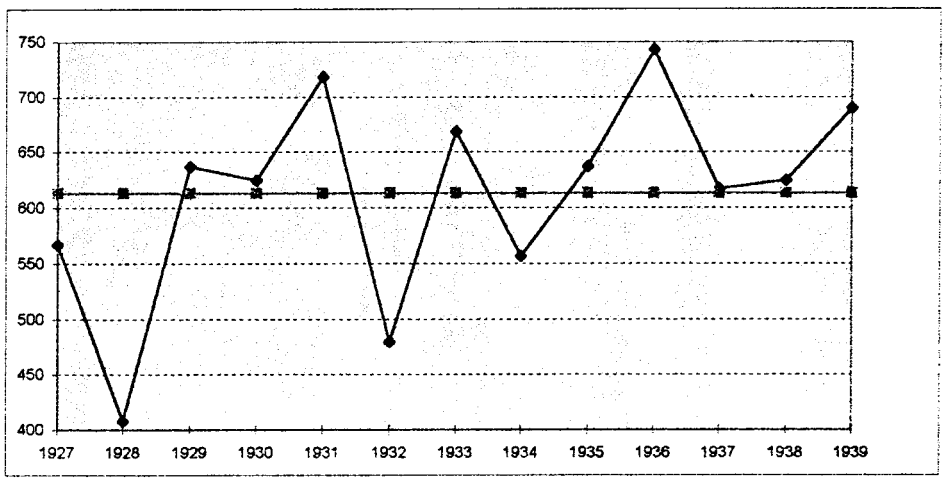

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