Growth despite deflation: Turkish economy during the Great Depression*

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Abstract
The recent fear that deflation is possible in today’s economy and the findings of macroeconomists that provide new insights about the economies of deflation have renewed the interest in the economies of the Great Depression (1929-33). A new look at the mechanisms of contraction in a deflationary environment, which pushed the industrialized world into the worst depression in the history of capitalism, allows us to reconsider the developing economies that simultaneously experienced deflation and growth at the same period. This paper attempts to explain this apparent paradox by examining the Turkish economy in the 1930s from a comparative perspective. Turkey was among the developing countries that succeeded in reaching positive growth rates during the 1930s. Although agricultural and industrial prices decreased as much as they did in the industrialized economies, GDP and particularly industrial production continued to grow. Obviously, deflation did not have the same devastating effects on the Turkish economy that it had on the industrialized world. This paper examines the different factors that contributed to the growth of the Turkish economy under deflation by employing a comparative perspective.

Keywords: Great Depression, Growth, Deflation, Turkish Economy, Import Substitution, Income Inequality
JEL Classification Numbers: N 15, N 25, N 35

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1. Introduction

The Great Depression has been a topic of interest in the last two decades. As Bernanke points out, although understanding the process of price-output decreases in order to design appropriate policy responses to the depression when it occurs (or better yet, before it occurs) is important, “finding an explanation for the worldwide economic collapse of 1930s remains a fascinating intellectual challenge” (p.1, 1995). The recent debate on the Great Depression, by well known macroeconomists such as Bernanke (1983, 1991, 1995, 1996) Eichengreen (1984, 1985, 1992, 1994, 2004), Temin (1976, 1989, 1993) and many others, has focused on the origins of deflation as well as its role in the depression itself. The transmission mechanisms and the direction of causalities have been scrutinised using the framework of the new macroeconomic theory developed in the 1970’s and the modern econometrics.

In the 1930s, the industrialised economies fell into a deep crisis, because of the continuous decrease of aggregate demand as well as output and the rise of unemployment (the rate of unemployed people which was 3 percent in August 1929 reached 25 % in USA and Germany in 1933). Some of the non industrialised (or less developed) economies, however, (such as Turkey) have been able to achieve positive GDP growth during the same period. The interesting aspect of this success is that the aggregate output, particularly the industrial one, was increasing despite the deflation. This was as severe as the situation of the economies suffering from the Great Depression. Why did not the deflation provoke a depression in the less developed economies? In other words, why did not the different transmission mechanisms from the financial-monetary sector to the real sector work in these countries?

A study of Turkish Economy during the years of the Great Depression (1929-1933) can make two contributions to the literature. First, it can help to explain the apparent paradox created by the exceptional case of those countries enjoying a positive growth despite deflation. Second, it can provide a better understanding of the deflation-depression mechanisms. The topic is also interesting for economic historians since some historians consider the 1930s as the “golden age” of Kemalism “thanks to Etatism”. ¹ Some others, although they are ideologically neutral, do not show, any interest in the analyses of the deflation-growth economy. ² Turkey’s success in avoiding the depression is attributed to the “wise policy” and the Etatism of the ruling

¹ Erdiņç Tokgöz’s (p56, 71, 2004) work is an example for this apologist literature on “the Golden Age”. He writes, “…describing the remedies used by the western powers to get out from the crisis… will make easier to understand and explain how was the great vision shown by Atatürk implementing the Etatism in a poor county starting from 1930… As the crisis has particularly destructed the agricultural markets, the political, economical and social balances created with great difficulties by the young Republic, have been profoundly altered within a year. Atatürk evaluating very well the conditions in which were evolving the World and Turkey started to institutionalize Etatism”.

² The most influential “text books” (Tezel, 1982, 4th edition 2000, Kepenek & Yentürk, 1983, 10th edition 1999 and Boratav, 1987, 7th edition 2003) on the Turkish Economic History, do not mention at all the deflation-depression debate and limit their interests for the period to the protectionism and to the depreciation of the Turkish Lira, occurred in 1929, therefore before the Great Depression had become a worldwide phenomenon. The unique exception in this intellectual distress is Şevket Pamuk (Pamuk, 2001). Nevertheless, Pamuk studies a larger period (1930-39) and did not investigate some analytical aspects of a deflationary economy in details. Anyhow, I thank Pamuk for his encouragements, without them this paper will never be written.
bureaucracy led by Mustafa Kemal Atatürk. According to this argument, it was the policy of Etatism that avoided the depression and started the industrialisation. However, this argument has two gaps. First, there is an inconsistency about the time of Etatism and the depression, - the first investments of State industries did not start before 1934. Second, although growth rate was positive, there were losers as well as winners. The income distribution between agricultural producers and urban classes, particularly civil servants, industrial bourgeoisie, and the worker class, was deeply distorted by the relative price movements caused by the deflation. Although the discussion on Etatism is an important one, this paper has another goal.

This paper particularly focuses on the reasons of the growth in a deflationary environment. Section 2 presents various approaches to the links between monetary variables, prices and output, based on the findings of the recent economic research on the Great Depression. Section 3 describes the basic characteristics and the main macroeconomic variables of Turkish economy during the 1930s. In Section 4 we discuss whether the standard links (transmission mechanisms) from deflation to output (aggregate demand) existed in the Turkish economy or not, and why? Finally the paper concludes with the discussion of some ideological and political consequences of this crucial period in the history of the Turkish Republic.

2. From deflation to depression

The Great Depression

It is necessary to start by summarizing the basic facts and figures of the Great Depression. Although the United Kingdom was in depression since 1925, the date of the return to Gold Standard at the pre-war parity, there is no doubt that the Great one started in United States before it was transmitted to other countries. The beginnings can be dated as early as January 1928. “It is around this time that two of the most prominent explanations (Fed’s monetary policy and the “flawed structure” of the Gold Standard) for the depth, length and worldwide spread of the Depression first came to be manifest” (Parker, 2004). Indeed, a turning point in the Fed’s monetary policy took place in 1928. Believing in the existence of a speculative bubble in equity values, Fed decided to put an end to this “unhealthy” situation, and began to increase interest rates through open market operations. Buying rates on banker’s acceptances were raised from 3 percent in January 1928 to 4.5 percent by July and the discount rate from 3.5 percent to 5 percent. (Parker, 2004) The Wall Street crash arrived later on, in October 1929, but there is no doubt that the attitude of Fed has been the key factor of it.

The start of the depression is dated as August 1929. The Fed’s seasonally adjusted index of industrial production stood at 114 (1935-39=100) by this date, and it had fallen to 110 by October, constituting an annualised decline of 14.7 percent. The index was at 100 in December, and at 79 one year later. It decreased to its bottom line at 54 by March 1933 (Bernanke, 1983, Table 1). An ordinary recession has been transformed into the deepest and longest depression in the capitalist history through two interconnected channels: the contraction of the money stock and the deflation. M1 started to decrease in 1930 and lost one third of its nominal value by 1933 because of the bank runs and failures (Friedman and Schwartz, 1963). US witnessed three waves of banking panics and failures during the Great Depression: From October to December 1930, from June to December 1931, and the largest wave hit the
financial markets in December 1932 and ended with the Bank Holiday of March 1933, date representing the bottom line of the depression (Parker, 2004). In 1930, the deflation started as well. Over a three-year period, consumer prices fell by nearly 30 percent (Cecchetti, 1997) and wholesale prices fell almost 33 percent (close to 10 percent in 1930) (Eichengreen, 1992, Fig.3)

Table 2.1. Industrial Production, 1927 to 1935 (1929=100)

<table>
<thead>
<tr>
<th></th>
<th>1927</th>
<th>1928</th>
<th>1929</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britain</td>
<td>95</td>
<td>94</td>
<td>100</td>
<td>94</td>
<td>86</td>
<td>89</td>
<td>95</td>
<td>105</td>
<td>114</td>
</tr>
<tr>
<td>Canada</td>
<td>85</td>
<td>94</td>
<td>100</td>
<td>91</td>
<td>78</td>
<td>68</td>
<td>69</td>
<td>82</td>
<td>90</td>
</tr>
<tr>
<td>France</td>
<td>84</td>
<td>94</td>
<td>100</td>
<td>99</td>
<td>85</td>
<td>74</td>
<td>83</td>
<td>79</td>
<td>77</td>
</tr>
<tr>
<td>Germany</td>
<td>95</td>
<td>100</td>
<td>100</td>
<td>86</td>
<td>72</td>
<td>59</td>
<td>68</td>
<td>83</td>
<td>96</td>
</tr>
<tr>
<td>Italy</td>
<td>87</td>
<td>99</td>
<td>100</td>
<td>93</td>
<td>84</td>
<td>77</td>
<td>83</td>
<td>85</td>
<td>99</td>
</tr>
<tr>
<td>Netherlands</td>
<td>87</td>
<td>94</td>
<td>100</td>
<td>109</td>
<td>101</td>
<td>90</td>
<td>90</td>
<td>93</td>
<td>95</td>
</tr>
<tr>
<td>Sweden</td>
<td>85</td>
<td>88</td>
<td>100</td>
<td>102</td>
<td>97</td>
<td>89</td>
<td>93</td>
<td>111</td>
<td>125</td>
</tr>
<tr>
<td>U.S.</td>
<td>85</td>
<td>90</td>
<td>100</td>
<td>83</td>
<td>69</td>
<td>55</td>
<td>63</td>
<td>69</td>
<td>79</td>
</tr>
</tbody>
</table>


The US depression spread to other countries, particularly to Europe, during 1930. Some countries, like Sweden and the Netherlands, have been touched only in 1931 (Table 1), but the depression had already become a worldwide phenomenon in 1930. Table 2 summarizes for 26 countries the evolution of manufacturing production; M1 represents the money supply, the wholesale prices, and the real share prices. One can observe that output and price decreases were as severe as they were in US.

The transmission of the US depression to other countries resulted from several factors. Among those, first is the deflation. The prices of primary and agricultural goods, with high price elasticities, decreased very rapidly, triggering a deflationary spiral. The second factor is the money stock contraction. The Golden Standard System, to which most of the countries belonged at the beginning, contributed to the decrease of the money stock, as its basic mechanisms were not working. The meltdown of the stock markets, followed by the banking panics started in May 1931 with Austria’s largest bank failure, the Kredit-anstalt. This spread to the financial systems of Germany and the Central-East European countries. The last channel of transmission was the international trade. The decline of US imports, caused by the

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3 Almost half of the existing banks in 1929 did not survive the Great Depression (Bernanke, 1983)
4 These countries are: Australia, Argentina, Austria, Belgium, Canada, Czechoslovakia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Latvia, the Netherlands, Norway, New Zealand, Poland, Rumania, Sweden, Spain, Switzerland, the United Kingdom, and the United States. (Bernanke, 1995, p.26)
5 Due to the differences in banking systems, bank failures did not occur in Canada, UK and France but the banks in these countries also suffered from the deposits drawbacks as well from the flawed functioning of the Gold Standard (Bernanke, 1983). Eichengreen stresses that UK and Canada were immune from banking panics because their banking systems were highly concentrated, widely branched and less intimately connected to industry (Eichengreen, 1992 (2))
protectionist policies started on June 1930 with the Smoot-Hawley Tariff, and the decline of the aggregate demand, had an adverse effect on the aggregate demand of the principal exporters. As the American, British and German economies contracted, they depressed other economies through the mechanism of Gold Standard. These countries reduced their imports, and decreased exports from other countries. They also reduced their capital exports, or increased their capital imports in response to the tight credit conditions (Temin, 1993). Once deflation-depression process was on the way in the great majority of the countries, the same monetary and real dynamics worked, making the depression a deep and long-lasting worldwide phenomenon. Now we will turn to these dynamics.

Table 2.2. Average Behaviour of Selected Macro Variables for 26 countries (In log change)

<table>
<thead>
<tr>
<th></th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing production</td>
<td>-.066</td>
<td>-.116</td>
<td>-.090</td>
<td>.076</td>
<td>.100</td>
</tr>
<tr>
<td>M1 money supply</td>
<td>.016</td>
<td>-.088</td>
<td>-.068</td>
<td>-.006</td>
<td>.019</td>
</tr>
<tr>
<td>Wholesale prices</td>
<td>-.116</td>
<td>-.122</td>
<td>-.045</td>
<td>-.017</td>
<td>.018</td>
</tr>
<tr>
<td>Real share prices*</td>
<td>-.107</td>
<td>-.186</td>
<td>-.214</td>
<td>.133</td>
<td>.060</td>
</tr>
</tbody>
</table>

* Only for 16 countries
Source: Bernanke, Ben (1995), Table 2

The cause(s) and the cause-effect sequencing of the Great Depression is still a matter of discussion. None of the monocausal explanations could pass the test. Neither Friedman’s monetary hypothesis (Friedman and Schwartz 1963), nor Bernanke’s debt-deflation hypothesis (1983, 1991) could explain the depth and the duration of the depression. Eichengreen’s gold standard hypothesis (1984, 1992) could not do so either (Fackler and Parker 1994). We do not know with precision if deflation was preceding the depression or vice versa. In each country case, the order of events was different. However, there is a broad understanding about the responsibility of each of these hypotheses in the emergence and the deepening of the depression, especially on the devastating effects of the deflation.

We have to know the basic arguments of these hypotheses and explanations mentioned above, in order to understand what happened in the Turkish Economy in the 1930s. In other words, we have to check whether the different mechanisms and economic processes responsible of the depression were also operative in the Turkish economy. For example, we must explain why the monetary stock did not collapse; why the deflation did not provoke an output decrease as they did in other countries. Indeed, we need to understand the making of the Great Depression to explain how Turkish GNP, particularly industrial output, could continue to grow during these years of crisis. Was this growth the result of “wise” economic measures of the incumbent government or was it the coincidence of a particular institutional framework with a very rough protectionist policy, which was introduced before the Great Depression had begun?

6 Indeed, most of the import duties were specific, not ad valorem. This means that they were stated in fixed dollar amounts per unit of import. As a result, the increases in the real value of the tariffs came not with the tariff itself, but with the deflation (Cecchetti, 1997)
We can group the macroeconomic explanations of the Great Depression under four effects: Namely, the real money effect, the debt-deflation or the balance sheets effect, the real interest rate effect and the wage stickiness effect.

The monetary collapse

According to Friedman-Schwartz monetary hypothesis, the wrong policies of Fed caused a continuous decrease of the money stock (Friedman and Schwartz, 1963). Fed is accused for at least three mistakes. It tightened its monetary policy by increasing interest rates before the depression began. Not only this behaviour led the stock market to the crash, but it also contributed to the initial deflation. When the price decreases became continuous and while nominal interest rates were falling, the Fed did virtually nothing, since it considered this as sign of easy money. It is very doubtful that the Fed’s managers were aware of the fact that the real interest rates were becoming very high because of the deflation; thus, the monetary policy was tighter than they thought (Parker, 2004).

The second mistake was Fed’s total inaptitude to prevent the banking panics and failures, or at least, to decrease their intensity. In fact, the original mission of Fed was to operate as the lender of last resort. The absence of deposit insurance caused the panics to spread to sound financial institutions, and not only those in effective bankruptcy. “When the banking panics came in waves and the financial system was collapsing, being the lender of last resort was a responsibility that the Federal Reserve either could not or would not assume” (Parker, 2004).

The Fed’s third mistake was the misuse of the Gold Standard. The central banks in France, two gold surplus countries, and US did not lend the money supply to grow along with the gold flows. In other words, they sterilized the extra gold (for various reasons which we will not go into in this paper). This behaviour contributed to the contraction of the money stocks in other countries and fuelled the propagation of the deflation at the international level (Eichengreen, 1992 (2)).

The mixture of tight money and banking panics as well as failures provoked the decrease of money stocks in every country, touched by the depression. This decrease in money stocks created deflation prone economies but it also had an adverse effect on the aggregate demand. The bank failures caused capital / wealth losses for their stakeholders. Moreover, if the deflation is even partially anticipated and the decrease of the money stock is quite high, the opportunity cost of holding money becomes negative, causing decline in consumption and investment. “In essence, the economy is de-capitalized” (Cecchetti, 1997). The economies where the money stock decreased rapidly faced this “real money effect”.

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7 Recently Elmus Wicker argued that the word “inept” used by Friedman and Schwartz for Fed’s officials is “singularly inappropriate” since they were not in the possession of the required knowledge in order to prevent the decreases of the money stock. (Wicker, 2002)

8 According to Bernanke almost half of the US banks existing in 1929 could survive after 1933 (Bernanke, 1983). Friedman and Schwartz estimate to 2,5 billions dollars the losses from 9000 failed banks and to 42 per cent the fall of the commercial bank deposits (Friedman and Schwartz, 1963)

9 The United States and France was holding 60 percent of the world’s monetary gold during this period (Parker 2004, p.15)
Another interesting aspect of the monetary approach is the question of whether the so-called “pigou effect” or “real balance effect” operated or not. Assuming that the behaviours are not altered, a stable money stock or a stock decreasing at a lower rate than the price level should encourage the consumption through a wealth effect since the real money balances will be increased. In some countries, like US the money stock decreased as much as the price level. In those countries the pigou effect did not appear since the money stock contraction offset the real effect of the deflation. In some others, as can be observed in Table 2 where the average speed of the deflation is higher than the speed of the M1 contraction, the pigou effect must have worked. But it should not be powerful enough to compensate the devastating effects of the deflation occurring through the other channels.

The Debt-deflation

The “Debt-deflation” concept has been introduced into the economic literature by Ben Bernanke (1983) but the original idea goes back to Irving Fisher (1933)\textsuperscript{10}. The concept designates a combined effect of the financial variables like nominal debt, price level, nominal incomes and interest rates on the aggregate demand, and also on the supply side, through the impact that bank panics have on the ability of the banking system to efficiently allocate credits. This effect operates through the balance sheets of the main economic agents, namely, households, firms and banks. For this reason we can talk about a “balance sheets effect”. The deflation alters the real values in both sides of a balance sheet, i.e. the real values of the assets as well as the liabilities, provoking dramatic changes in the behaviours of the borrowers as well as in those of the lenders.

Needless to say that the operationally of the debt-deflation process requires rigid debt contracts. Indeed, this was the case in 1920s when nominal contracts did not include clauses related to the price level changes (Bernanke, 1995). The debt-deflation process requires over indebtedness to be operational. Following the second industrial revolution, the 1920s was the period when mass consumption of the consumer durables increased greatly particularly in the US. A large number of households were borrowing long-term loans to buy refrigerators, radios, and especially cars. There was also a boom in housing. Many households took long-term mortgages.\textsuperscript{11} When the deflation began in 1930, the real and relative burden of the debt stock started to rapidly increase in the US, and also elsewhere, since the current nominal incomes were falling at the same time. This fall prevented the real income to compensate the increase of the real value of the debt stock. During this period borrowers suffered from big losses of net worth.\textsuperscript{12} Obviously, these circumstances affected the demand of

\textsuperscript{10}Fisher has been personally one of the victims of the Debt-deflation effect as he was “a million dollars in Debt to his sister in law because he played the stock market”. This remark has been made by Anna Schwartz and quoted in Roger Garrison’s article (2003). Fisher’s point of view is summarized by Randall Parker as follows: “Fisher argued that real Debt burdens were substantially increased when there were dramatic declines in the price level and nominal incomes. The combination of deflation, falling nominal income and increasing real Debt burdens led to a continuing decline in the price level and thus further increases in the real burden of Debt” (Parker, 2004, p.12)

\textsuperscript{11}Fackler and Parker writes, “As an example, 1929 commercial banks had average mortgage contract maturity of 3.7 years” (2005, p.71)

\textsuperscript{12}In a very recent article, James Fackler and Randall Parker documents that in the US: 1) beginning of the 1920s the ratio of private Debt to national income has the highest value (0.95) comparing to four other decades, from 1931 to 1976 2) the 1920s has also the highest growth rate of this ratio 3) the part
the consumer durables and the housing adversely. Moreover, a higher risk of the loss of the physical assets (the incapacity to reimburse even one instalment was enough for the start of the legal procedures of repossession) put pressure on the spending for the other consumption goods.

The debt-deflation mechanism worked for the firms too. The majority of the firms were always net borrowers. With the start of the deflation the real burden of their debt stock also started to increase. Moreover, their real incomes, as well as the real value of their assets (shares, bonds and fixed capital) were decreasing with the deflation. Friedman and Schwartz estimate the capital losses of the firms to be 85 billion dollars, while the stock market losses were limited to 15 billion (Friedman and Schwartz, 1963, p.55). These shocks had a direct impact on the investment.

When the extent of the debt-deflation is severe enough, which was the case in the 1930s, it threatens the health of the banks as well. Actual and potential loan losses rising from debt-deflation damage bank capital and efficiency in several ways: 1) At the beginning, deposit withdrawals forces banks to dump their assets on the market, an asset price deflation inevitably follows which rises the problem of solvency 13 2) Depositors escape and, withdrawals deprive banks of funds for lending. 3) The unanticipated increase in the number of the debtor bankruptcies leads to a decline in the nominal value of the banks’ assets, while nominal values of liabilities do not change. In the end, insolvency becomes a big problem in the banking system. 4) The risk of bank runs induces banks to increase the liquidity of their assets, so that they can reduce the volume of lending; this is the well known mechanism of “credit crunch”. Parker writes, “financial panics and debtor and business bankruptcies resulted in a increase in the real cost of credit intermediation. As the cost of the credit intermediation increased, sources of credit for many borrowers (especially households, farmers and small firms) became expensive or even unobtainable at any price. This tightening of credit put downward pressure on aggregate demand and helped turn the recession of 1929-30 into the Great Depression” (Parker, 2004, p.13).

There is also another research that studies 24 countries during the Great Depression and shows that the extent (or degree) of suffering from banking crises, has a large and highly statistically significant effect on the industrial output (Bernanke, 1995, p.19).

The debt-deflation mechanism as explained above should be considered as a first wave effect. In 1929 nobody was capable to anticipate the deflation. The highest price decrease occurred everywhere in 1930, so the impact of the debt-deflation effect was extremely severe for the first year. But what about the following years? If the majority of decision makers thought that the deflation would end very soon, then the same effect would have continued in the following years. But most probably, the majority of the economic agents began to anticipate further price decreases. In this case, the propensity to postpone investments, particularly the purchases of consumer durables, increased tremendously since their prices were expected to fall further. Of course, the

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of the long-term Debt in the total was more than 70 percent 4) the deflation was not anticipated 5) The ratio of the private Debt to national income was close to 2.0 by the end of 1929 and exceeded 3.0 on the pick. Finally, they conclude that the necessary conditions appear to have existed for Debt deflation to be operative during the Great Depression (Fackler and Parker, 2005)

13 Friedman and Schwartz remark, “Paradoxically, therefore, assets regarded by the banks as particularly liquid and as providing them with a secondary reserve, turned out to offer the most serious threat to their solvency” (Friedman and Schwartz, 1963, p.60)
postponement could not be too long. Indeed, the decision to postpone a purchase results from a change in the intertemporal optimisation of the consumer and therefore it is limited in time. But this behaviour must have constituted a second real shock on the demand, forcing the depression to deepen.

The real interest rate

Another damaging effect of the deflation has been the great increase in real interest rates. Nominal interest rates, by nature, cannot go under the 0 percent, as it has been made clear by the recent Japanese deflation. It is widely accepted that nominal interest rates have a lower bound; 1-2 percent for the treasury bonds, 3-4 percent for the banking loans can make sense. In these circumstances a 10 percent decrease in the price level means an ex-post real interest rate of, at least, 11 percent, and most probably higher. Table 3 shows average nominal (discount rates) and ex-post real interest rates for 26 countries during the Great Depression. Obviously, the nominal interest rates were not on their lower bounds and the real rates were very high, particularly during the first years of the depression.  

Table 2.3. Averages of nominal and ex-post real interest rates for 26 countries  
(In percentage points)

<table>
<thead>
<tr>
<th></th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal interest rate</td>
<td>5.3</td>
<td>5.4</td>
<td>5.3</td>
<td>4.4</td>
<td>4.0</td>
</tr>
<tr>
<td>Ex-post real interest rate</td>
<td>16.9</td>
<td>9.4</td>
<td>6.3</td>
<td>2.3</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Source: Bernanke (1995), Table 2

The crucial point in the real interest rate effect is whether the deflation was anticipated or not. The determinant of the demand for the investment goods as well as for the consumer durables is not the ex-post but the anticipated real interest rate. Indeed, the real interest rate increase can be considered as a windfall income for the bond holders in the one hand, and an unanticipated cost increase for the borrowers on the other hand. The additional income is expected to encourage consumption, and in case of the cost increase, we go back to the debt-deflation mechanism. Hence, the operationality of the real interest rate effect depends closely on the ability of the decision makers to anticipate the deflation. Cecchetti estimates ex-ante real interest rate in US for three and six months loans and he concludes, “...beginning in late 1930, and possibly as early as late 1929, deflation could have been anticipated at horizons of 3-6 months” (Cecchetti, 1992); so, “the real interest rate during the entire depression period was extremely high —in early 1932 the peak exceeded 20 percent! ... So, while nominal interest rates were low, real interest rates were extremely high. The clear cause of high real interest rates was the extraordinarily tight (monetary) policy” (Cecchetti, 1997, p.15)

I omitted to mention separately the figures according to the adherence to the Gold Standard, what Bernanke made. But let me remind that the real interest rates stayed at a significantly higher level in the countries continuing to be on the Gold Standard than the countries starting to leave it. For example in 1933, the real interest rate was still remaining at 7 percent in the countries on, while it has been already reached a very low 1.6 percent in the countries off.
Once the deflation was rolling, there is no doubt that it was anticipated for the short term. On the definition of this “short-term,” there is some debate. Did this anticipation involve a more than 6 months period at least qualitatively? The supporters of the debt-deflation theory disagree with the anticipated real interest rate theory. It is true that these two theories compete each other. But one must not forget that when the deflation is not anticipated (for sure it was note before late 1929) the debt-deflation process is underway, and when the deflation is anticipated, the real interest rate starts to operate. In both cases, an important impact on the aggregate demand is unavoidable. Thus, a combination of these two effects is very realistic.

*The wage stickiness*

Today, the wage stickiness or the nominal rigidity of the wages is a well known macroeconomic phenomenon. But in the 1930s it was not part of the economic theory. The classical economists were expecting almost perfect adjustment of the nominal wages to the price level changes, even if they were downward oriented, as it was the case during the economic downturns of the 19th century. But in the 1930s the nominal wages did not adjust to the decreasing prices, for various reasons. Table 4 shows the changes in wholesale prices, nominal and real wages for 26 countries. In 1930 and 1931, the first two years of the deflation, nominal wages fell much less slowly than prices causing a sharp increase in real wages (Bernanke, 1986). If we look at the four biggest industrialised countries, US, UK, Germany and Japan, we observe that the “product wages” (nominal wages / manufacturing prices) in these countries increased until 1932 in three of them (Japan (22 %), US (11%) and Germany (2 %)) and until 1934 in UK (10%). Then, product wages decreased as nominal wages were more rapidly adjusting, and reached their 1929 levels in 1933 (except in US, where only a partial adjustment occurred) (Eichengreen, 1992).

The nominal wage stickiness and the deflation combined to create an unplanned increase in real wages, forced firms to restrict their employment (working hours included) as well as their output during the Great Depression (Bernanke and Carey, 1996). In a recent article Bordo, Erceg and Evans (2000), using a GEM with Taylor wage contracts, showed that, for US economy sticky wage hypothesis accounts for much of the joint decline in output, consumption, labour hours, investment, and the price level from 1929 to 1932. As the real wage was not allowed to fall during the following years, the recovery was slow.

Table 2.4. Wholesale prices, nominal and real wages: Averages for 26 countries

<table>
<thead>
<tr>
<th></th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale prices</td>
<td>-.116</td>
<td>-.122</td>
<td>-.045</td>
<td>-.017</td>
<td>.018</td>
</tr>
<tr>
<td>Nominal wages</td>
<td>.004</td>
<td>-.030</td>
<td>-.053</td>
<td>-.030</td>
<td>-.002</td>
</tr>
<tr>
<td>Real wages</td>
<td>.122</td>
<td>.094</td>
<td>.007</td>
<td>-.009</td>
<td>-.023</td>
</tr>
</tbody>
</table>

Source: Bernanke (1995), Table 2

15 James D. Hamilton in his article “Was the deflation During the Great Depression Anticipated? Evidence from the Commodity Futures Market” (AER, March 1992), disagrees with Cecchetti. Bernanke (1995) argues that, since the nominal interest rate was quite high, the deflation was not anticipated. Fackler and Parker (2005) give new statistical evidences about the non-anticipation.
One can argue that the real wage increase would have had a positive effect on the consumption demand. Two objections can be provided to this assertion: 1) In an open economy, particularly specialised in the exportation of manufacturing goods, the real wage increase induces loss of competitiveness 2) The decline of output, provoked by the decrease of demand (as explained above) pushed firms to lay off part of their workforce, which increased the unemployment rapidly, and also to restrict the working hours for the remaining work force, decreasing their current income. (Eichengreen, 1992, and Bernanke, 1986)

3. Turkish economy in the 1930s

The ottoman legacy

Republic of Turkey has officially been founded in October 1923 and internationally legalized by the Treaty of Lausanne, agreed in July 1923, implemented in August 1924. Republic of Turkey inherited from the Ottoman Empire an underdeveloped but open economy. By the end of the 1920s, the agriculture was accounting for almost half of the GDP and for 80 percent of the total employment. The part of the industrial sector was limited to 14 percent and only 9 percent of the employed worked in this sector (Bulutay, Yıldırım and Tezel, 1974, Table 8.6.A, Tezel, p.112).

Small and medium-sized farmers were largely dominating the agricultural production units (Tezel, p.360-64). Agriculture was typically a family business and a large part of the produce was required for self-sufficiency. The openness to the market was varying from one region to another but it was usually very limited. According to a rough estimation, the degree of openness ((Exports + Imports)/ GNP, including agricultural exports) was varying from one fourth to one third (Tezel, p.358). The family units in the inland parts, specialized in the production of cereals, were buying very few items, mostly limited to some consumption goods. Rich peasants and big landowners capable to produce large surpluses secured the supply of agricultural products in the urban areas.

The industrial sector was open to the competition of the industrialized countries and could be developed through a process of “natural import substitution”, driven by “comparative advantages”. The survey of 1927 gives the picture of a very modest level of industrialisation. The total number of workers in the industrial sector was limited to 389.000. The number of workers in the firms employing more than 10 persons or using more than 10 HP was only 87.000. The total employment in the biggest firms (employing more than 50 persons) was 48.000 (Tezel, p. 281).

Turkish economy was open to foreign competition since the free trade agreement signed between Ottoman Government and Great Britain in 1838. Other western powers followed Great Britain and the ottoman economy had reached by the beginning of the century a quiet important degree of openness. With the treaty of Lausanne the republican government accepted to hold on for five years the existing custom tariffs which were offering, in average, a protection level of 26 percent (Tezel, p.164). Until October 1929 Turkish economy remained integrated into the world economy through a free trade regime. The degree of openness had reached 23 percent.
by the end of 1929 (Tezel, p.116). The composition of the exports and imports matters for our subject. In 1929-30 agricultural products constituted almost 80 percent of the exports; the part of the hazelnuts, dried fig and raisin and tobacco accounted for half of the total. The manufactured goods constituted about 15 percent of the exports (Tezel, table 3.6, p.119). In the last year of the free trade regime, the consumption goods accounted for half of the imports; foods for 18 percent, clothes for 26 percent. The part of the intermediary goods has been 26 percent, and that of equipments was 6 percent (Tezel, table 3.7, p.121).

In the deflation - depression debates the monetary and banking systems play an important role since the deflation may affect through the banking system. Thus, it is important for our subject to describe the basic characteristics of the Turkish banking system in the 1920s. The young republic started without a central bank. The Ottoman Bank, founded in 1860’s by French and British capital, provided some of the basic functions of a central bank i.e. issuing the national currency (The Ottoman Lira, OL), short-term loans but also, as a commercial bank, long term ones to the Ottoman Treasury and discounting commercial papers. The Ottoman Empire was an adherent of the Gold Standard (1 Pound = 1,1 Ottoman Lira). During the World War, Ottoman Government ended the gold convertibility of the OL and left the Gold Standard, as many others did. Moreover, the government issued a new flat money, evrak-i nakdiye, worth of 160 million Liras to finance the military expenditures. Needless to say that this money lost heavily its value, as prices in terms of it inflated.

After the War of Independence and the foundation of the Republic of Turkey, evrak-i nakdiye constituted the money base. Although the Ottoman Bank notes were still in circulation, they constituted a marginal part of the money base. In 1927 the government renamed evrak-i nakdiye as “Turkish Lira” and physically replaced the bank notes by the republican bank notes (Eldem, 1998). This currency constituted the high-powered money without being issued by a central bank. Turkish lira was backed neither by gold nor by hard currencies. But the government reserved from issuing additional money. A kind of currency board regime prevailed and this secured relative price stability. The banking system was granting credits using the deposits; in other words, the money supply was created through the money multiplier mechanism. The rules of this system were very close to the rules of the “banking principle”: the money demand determines the money supply in the absence of a central bank, hence, in the absence of legal reserve requirements. The amount of the bank notes increased only by 7.7 percent from 1924 to 1929, while the total bank deposits increased by 178 percent (Tezle, table 3.8, p.133). The exchange rate of Turkish Lira, convertible in foreign currencies, remained almost stable.

16 The Ottoman Bank notes, worth of 3.5 million Liras was accounting only for 2 percent of the high powered money at pair. But, as they were supposed to have a gold counter part, they gained premium and their exchange value, determined by the market, has been roughly tree times of evrak-i nakdiye. The bank bought back gradually its bank notes through the market purchases, and finally, in 1947-48, it proceeded to a official conversion of the remaining amount (188 thousand) to gold with the pre-war parity, which was 31 times higher than the face value, giving a great gift to the last lucky holders of the Ottoman Bank notes (Eldem, 1998, p.30-33)

17 Calculation of the deflator based on 1948 price level, as well as based on 1938, gives roughly a price increase of 20 percent, which corresponds to an average annual rate of inflation of a little more than 3 percent.

18 From 1924 to 1928 Turkish Lira depreciated against Sterling by 17 percent, but only by 3 percent against Dollar; do not forget that Sterling appreciated against all the currencies during these years.
Turkish Republic inherited from the Ottoman Empire a quiet developed banking system. There were 26 foreign banks; the most important foreign bank was the Ottoman Bank with more than 30 branches. Ziraat Bankası was the only publicly owned bank and had the widest network with 300 branches. In 1924, influential leaders, members of the political class and businessmen founded İş Bank as a private bank. This bank acquired its capital essentially of the money left from the money collected from the Indian Muslims who wanted to help the Turkish Government for the Independence War. İş Bank has quickly become the second most important bank in the country with nearly 30 branches. Two publicly owned banks, Industrial and Mining Bank of Turkey, founded in 1925 in order to finance the industrial projects and Housing Bank, founded in 1928 (Tezel, 2000, p. 231) followed İş Bank. After 1923, 24 small local banks were opened mostly with only one branch. The total deposits in these local banks were nearly 3 millions TL, less than 2 percent of the total deposits. Consequently, they had only a marginal impact in the banking system (Keyder, 1993, p.143).

A sharp and irregular deflation

Just after the outbreak of the deflation in the global economy, Turkish economy entered a deflationary era. Turkish economy was hit by the deflation through the foreign trade. The fall of the agricultural prices was instantaneous in the measure that the markets were fully integrated. Turkey was exporting and also importing cereals. The direction of the trade varied from one region to another. The regions like Istanbul imported from Romania whereas southeastern regions exported to Syria with the transportation costs having a major impact in those movements. This system created a dual price formation mechanism. In fact, when we compare the price of cereals in the Turkish market with those of UK and France we observe that the variations were not greater than 30 percent and on average stayed below 20 percent (Keyder, 1993, p.59). This fact remained valid for the prices of export goods like hazelnuts, dried fruits and tobacco. These prices adjusted quasi automatically with world prices. The prices of non-agricultural products started also to fall with the global deflationary choc. As the prices went on falling until 1934, it seems certain that the driving force was the global deflation. We will turn back to this discussion in subsequent sections, at this point we can note that neither the contraction of the money supply nor the decrease in the aggregate demand were responsible for the Turkish deflation.

Given that agricultural products accounted for half of the GDP and their prices were falling tremendously there had been crucial changes in relative prices. In table 3.1 we provide different measures of price level. The general price level in 1933 had been decreased by more than half of the level in 1929: No doubt that Turkey experienced a very sharp deflation during the 1930s, sharper than the world average (see table 2.4). The first year Turkish economy experienced the toughest deflationary choc i.e. in 1930. The deflation ended in 1934 at the same time it ended in the world.

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13

Turkish Lira depreciated exceptionally by 5 percent in 1929 due to the increase of the trade deficit, driven by an import boom. I will come back to this event later on.

19 Just an example: The value of the exports of wheat was over a billion TL in 1926, and that of the imports was over 2 billions TL the same year (Bulutay et al., 1974, table 2.1).
The irregularity of the Turkish deflation is notable: In the other countries, the intensity of the deflation was very high in the first two years. Then, it fell down regularly to extinguish at the end of 1933. In Turkey, there had been a slow down of the deflation in general in 1932. This resulted from the increase in the agricultural prices, which was simply due to the tragic fall of the harvests following the heavy drought of the 1932. The supply shock in the agricultural market caused a slight increase in the agricultural prices (4.6 percent), which slowed down suddenly the deflation. The pace of the prices of the non-agricultural products followed always the dynamics of the global deflation. However, the dynamics of the deflation in the industrial prices revealed the same anomaly that we have mentioned for the agricultural prices, this time in the opposite direction. In fact, there was a sudden and important fall in the industrial prices in 1932, from -15.7 percent to -21.3 percent. We think that this sudden acceleration of the deflation in the market for industrial products may be explained through the very intense adverse shock on the demand side. It is very plausible that the demand for industrial products was decreased in 1932 following the important fall of the agricultural revenues the same year. On the whole, the fall in the agricultural prices was stronger than the fall of the non-agricultural prices. Note that the price of cereals which accounted for the largest part of the agricultural income, literally crashed: For example the price of wheat was decreased by 42 percent from 1929 to 1930 (Bulutay et al., 1974, table Ek1); this was a real financial disaster for the rich farmers producing important trade surpluses in the cereal market.

Table 3.1. Price movements in the Turkish Economy: 1929-1934
(Annual changes in percentage)
1948=100

<table>
<thead>
<tr>
<th></th>
<th>GNP Deflator</th>
<th>Agricultural prices</th>
<th>Non agricultural prices</th>
<th>Industrial prices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>4.4</td>
<td>5.0</td>
<td>3.5</td>
<td>3.7</td>
</tr>
<tr>
<td>1930</td>
<td>-25.4</td>
<td>-30.0</td>
<td>-20.8</td>
<td>-23.0</td>
</tr>
<tr>
<td>1931</td>
<td>-19.0</td>
<td>-23.8</td>
<td>-14.7</td>
<td>-16.0</td>
</tr>
<tr>
<td>1932</td>
<td>-5.7</td>
<td>4.6</td>
<td>-13.7</td>
<td>-21.3</td>
</tr>
<tr>
<td>1933</td>
<td>-15.8</td>
<td>-25.0</td>
<td>-9.1</td>
<td>-6.1</td>
</tr>
<tr>
<td>1934</td>
<td>0.5</td>
<td>-5.3</td>
<td>4.0</td>
<td>4.9</td>
</tr>
<tr>
<td>1929-33</td>
<td>-53.2</td>
<td>-58.2</td>
<td>-47.0</td>
<td>-52.4</td>
</tr>
</tbody>
</table>

Source: Bulutay et al. 1974 (Tables 8.3A, 8.3.B, Ek 25)

A sizable growth

Turkish economy had experienced a relatively important growth in the 1930s. The estimates vary but there is, any way, a consensus on the existence of a positive

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20 Vedat Eldem’s estimates are very close to those of Bulutay and his colleagues; Eldem estimated the industrial growth as 67 percent from 1929 to 1933, whereas, Bulutay estimated as 79 percent (See Yücel, 1996, table 6-A1 for Vedat Eldem’s estimation and Bulutay et al., table 3.8). A recent
growth. GNP at constant prices increased by almost 15 percent from 1929 to 1933 (Table 3.2, as the estimations are rather rough, we round up the numbers to have a clearer picture). This growth was very irregular. The irregularity is due to the existence of a strong correlation between the agricultural production and the GNP since as we pointed out the value added in the agriculture accounted for the half of the Turkish GNP by the end of 1920s. The very high contraction of the GNP (-10.7 percent) in 1932 is explained by the even higher contraction of the agricultural production that year (Table 3.2). The industrial sector (excluding construction) continued to grow up by the astonishing rate of 17 percent, which is in fact rather intriguing. This point will be discussed in subsequent sections. Note again that the important decline in the agricultural production and as a result in GNP was due to natural shocks and that the deflation could not be blamed for.

Table 3.2. GNP and sectoral growth in the Turkish Economy: 1929-34
(At constant prices, 1948=100)
(Annual average percentages)

<table>
<thead>
<tr>
<th></th>
<th>GNP</th>
<th>Agriculture</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>22</td>
<td>57</td>
<td>4</td>
</tr>
<tr>
<td>1930</td>
<td>2</td>
<td>-4</td>
<td>12</td>
</tr>
<tr>
<td>1931</td>
<td>9</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>1932</td>
<td>-11</td>
<td>-29</td>
<td>17</td>
</tr>
<tr>
<td>1933</td>
<td>16</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>1934</td>
<td>6</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>1929-33 (1929=100)</td>
<td>115</td>
<td>96</td>
<td>179</td>
</tr>
</tbody>
</table>

Source: Bulutay et al. 1974, Table 8.2.B

A more detailed decomposition of the agricultural production shows that the Great Depression (deflation + depression) had different impacts when we make a product-by-product analysis. We restrict the analysis to the main three products: cereals, tobacco and cotton (Table 3.3), their production accounted for 53 percent of the total agricultural production. The extraordinary increase (73 percent) in the cereal production in 1929 is simply due to the base effect created by the bad harvests from 1927 to 1928. Remark that the increase in the agricultural production compared to 1926 is just 20 percent. Considering the whole period 1929-33, we can note that the cereal production stagnated practically. The behaviour of cereal producers in a deflationary environment will not be in the scope of this paper. However, We can point out that the peasants weekly integrated in the market were not profit maximisers, but rather income maximisers. Whatever the prices were, the great majority were obliged to cultivate the available land with existent technology.

An estimation (Zendisayek, 1997) lowered significantly the average growth rate: According to this estimation average annual growth rate in the manufacturing sector has been limited to 6.8 percent, while Bulutay’s estimation is 16 percent (calculated based on table 3.8). The first figure, which is still quiet high is much more plausible then the second one (some evidences in this respect will be provided in the fourth section).

21 We will illustrate and discuss this growth using again the estimations of Bulutay et al., in order to ensure the coherence of the data with the others particularly with the price data.

22 Only the cereals accounted for 46 percent.
The tobacco production mostly directed to exports was determined mainly by the foreign demand and not by its price like the cereal production. We remark that the area reserved for its culture diminished slightly (Table 3.3). It is not surprising that the Great Depression could not really change the habits of smokers. The case of the cotton is different as the cotton is an industrial input. The area cultivated with cotton diminished by 12 percent. The decline of the production was very dramatic but apparently there was a problem of returns to scale in this case. On the contrary the decline of the cultivated area was more significant: This attained its maximal value of 275 thousand hectares in 1930, which is understandable because the deflation - depression could not be anticipated a year before by cotton cultivators. The cultivated area went on diminishing later on: It would be 155 thousand hectares in 1932, and increased marginally to be 162 thousand in 1933. The decline of the cultivated area compared to 1930 was 42 percent.

The impact of the Great Depression on the cotton production is undeniable. In fact the cultivated area and the production would be increasing from 1934 on and the pick of 1930 be surpassed in 1937 (DİE, 2001, table 9.6).

Table 3.3. Growth of selected agricultural products: 1929-34
(At constant prices, 1948=100)
(Annual average percentages)

<table>
<thead>
<tr>
<th></th>
<th>Cereals</th>
<th>Tobacco</th>
<th>Cotton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>73</td>
<td>-15</td>
<td>4</td>
</tr>
<tr>
<td>1930</td>
<td>-8</td>
<td>29</td>
<td>-2</td>
</tr>
<tr>
<td>1931</td>
<td>18</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>1932</td>
<td>-35</td>
<td>-64</td>
<td>-68</td>
</tr>
<tr>
<td>1933</td>
<td>36</td>
<td>123</td>
<td>41</td>
</tr>
<tr>
<td>1934</td>
<td>1</td>
<td>-12</td>
<td>36</td>
</tr>
<tr>
<td>1929-33 (1929=100)</td>
<td>95</td>
<td>110</td>
<td>47</td>
</tr>
<tr>
<td>Cultivated area (1929=100)</td>
<td>100</td>
<td>93</td>
<td>88</td>
</tr>
<tr>
<td>Prod. in Tons (1929=100)</td>
<td>98</td>
<td>98</td>
<td>45</td>
</tr>
</tbody>
</table>

Source: Bulutay et al. 1974, Table 2.21 and DIE, İstatistik Göstergeler (1923-1998),Tables 9.2, 9.6

The case of cotton is interesting for the purpose of this paper. It is evident that the production fell following the fall of the foreign demand. But what about the domestic demand? In principle, the strong industrial growth should have increased the demand of cotton in the Turkish economy. The calculations that we have made in order to

\[23^{[5]}\] The average return per hectare was 236 kg in 1930-31. This period was normal regarding the weather conditions. The average return declined to 184 kg per hectare in 1933-34. This period too can be considered normal. The normality is defined according to the return in the cereal production. Just for the curious reader, we would like to remark that the return was just 128 kg per hectare for the terrible year 1932. We do not have any references explaining this decline. We can suggest a reason, the abandon of the cultivation of the cotton on the best terrain (big superficies irrigated et exploited by the capitalist mode) due to the global deflation - depression: the fall in the demand and the profitability.
determine the part of the domestic use in the production are not conclusive.\textsuperscript{24} We cannot observe at all an increase of the cotton quantities aimed for the domestic industry. However, this evidence may not be a sufficient proof to conclude that there was an output decline in the cotton fabric sector. Indeed, since the end of the 19th century this sector was using imported cotton fibres at very competitive prices (Pamuk, 1994, 146-47). In 1930’s, cotton textiles firms might have increased their imports of cotton fibres, since we observe an important increase in the cotton fibres importation: The amount of cotton fibres in real terms was 42 percent higher in 1933 compared to 1929 (Yücel, table 5.6).

4. Effects of deflation, protectionism and industrial growth the 1930s

The monetary effects and the banking sector

The most striking aspect of the monetary issues in the Turkish economy in 1930s is the very limited contraction of the money supply. Given the very strong deflation, this limited contraction caused an important increase of the real money stock. As explained above, in the absence of a central bank, the Turkish government adopted a monetary regime similar to a currency board regime, by fixing the quantity of high powered money. The amount of currency in circulation, as well as amount of bank deposits remained almost constant in nominal terms from 1929 to 1933 (table 4.1), and the decrease of M2 in nominal terms was limited to 10 percent. But as the price level decreased by almost half percent, M2 increased tremendously in real terms, precisely by 92 percent, from 1929 to 1933 (table 4.2). In accordance with the money supply which is consistent with economic growth, bank credits increased in real terms by 89 percent. In addition, the evolution of the money supply and the credits fit well with the evolution of the GNP. A fall in real terms occurred only in 1932, during which the GNP had declined by 11 percent.

\textbf{Table 4.1. Money supply and bank credits: 1929-1933}
\textit{(In million TL)}

<table>
<thead>
<tr>
<th></th>
<th>Currency in circulation</th>
<th>Bank Deposits</th>
<th>M2 (1 + 2)</th>
<th>Bank Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>168</td>
<td>211</td>
<td>379</td>
<td>204</td>
</tr>
<tr>
<td>1930</td>
<td>169</td>
<td>207</td>
<td>376</td>
<td>214</td>
</tr>
<tr>
<td>1931</td>
<td>170</td>
<td>212</td>
<td>382</td>
<td>201</td>
</tr>
<tr>
<td>1932</td>
<td>167</td>
<td>184</td>
<td>351</td>
<td>175</td>
</tr>
<tr>
<td>1933</td>
<td>153</td>
<td>190</td>
<td>343</td>
<td>181</td>
</tr>
</tbody>
</table>

Source: Tezel, 2000, table 3.8

\textsuperscript{24} From the part of cotton in the total exports, we calculated the value of cotton exports in TL and then we obtained the quantity of cotton exported using this value and the price of cotton estimated by Bulutay et al. (table Ek 12) And finally we subtracted these quantities from the total cotton production indicated in the same table. The results are very erratic but the quantities aimed for the domestic use in 1930-33 are inferior (with a gap of more than 20 percent) to those in 1928-29.
Table 4.2. Real Money supply index: 1929-33
(deflated by 1948 price level)

<table>
<thead>
<tr>
<th></th>
<th>GNP deflator</th>
<th>M2</th>
<th>Bank credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1930</td>
<td>75</td>
<td>132</td>
<td>140</td>
</tr>
<tr>
<td>1931</td>
<td>61</td>
<td>165</td>
<td>161</td>
</tr>
<tr>
<td>1932</td>
<td>57</td>
<td>163</td>
<td>150</td>
</tr>
<tr>
<td>1933</td>
<td>47</td>
<td>192</td>
<td>189</td>
</tr>
</tbody>
</table>

Source: Tezel, 2000, table 3.8

However, neither the level of the M2, nor the level of the credits were consistent with the real GNP level at the end the period. The index was 192 for M2, but a mere 115 for the real GNP. A slowdown in the velocity of circulation had to be considered in a deflationary environment, but it probably did not have such a strong effect. A simple calculation shows that the ratio of the cash balances to nominal GNP had increased from 0.08 to 0.13 in 1929-33. This corresponds to a slowdown of the velocity by 38 percent during the mentioned period. However, we should also remember that a large part of the agricultural sector stayed outside the monetary transactions since high quantities of crops, particularly the cereals, were for self-consumption. We already mentioned that the marketed part of the agricultural value added has been estimated to one-third at maximum. If the calculation is revised excluding the non traded part of the nominal GNP, the above ratios become 0.12 and 0.18 respectively, and the slowdown of the velocity decreases to 33 percent (to 31 percent if the marketed portion is limited to one fourth).

In any case, the impact of the deflation on the holding money behaviour should have been quite significant. Obviously, the pigou effect or the wealth effect was operative in the Turkish economy during the 1930s. Because the financial markets were very poorly developed in Turkey at this time, the asset deflation did not have any important impact on the wealth. There is no doubt that this wealth effect provided a support to the aggregate demand. At this point we should ask the question whether the deflation, if it was anticipated, caused consumption postponements. The consumption of durable goods which were not produced in Turkey (and thus whose utilization was very limited) was postponed.

It is shocking that the very limited contraction of the money stock, the opposite case is the important increase of the real monetary stock, occurred in the absence of a central bank, at least in the beginning. The Central Bank of Republic of Turkey (CBRT) was founded in June 1930. But it did not become operative until late 1931. The central bank was closely dependent on the political power, which had carried on the orthodox monetary policies since 1923. CBRT started with a discount rate of 8 percent in 1932, while the deflation continued to worsen and the economy suffered from bad yields. CBRT was also responsible for the relatively high rate of deflation (15.8 percent) of 1933. CBRT decreased its discount rate to 5 percent in 1933. This left no place for a “lender of last resort” in an economy where the monetary policies were very orthodox.

1930 was also the year of the establishment of a new exchange regime. Turkish Government established in August 1930 a fixed exchange rate system parallel to the
protectionist regime. The exchange rate with the sterling has been fixed at 1 Sterling = 10,30 TL and at 2,12 TL with the USD. Hence, Turkey entered the Gold Exchange Standard. The protectionist policies implemented since the beginning of 1930 gave way to a foreign trade surplus. The current account surpluses surely encouraged the Government to link the TL to the gold in fine.

It is also interesting to see how much the officials of the young Turkish Republic were dedicated to the Gold Standard. Turkey refused to follow the countries which started to quit the Gold Standard by 1931. First the UK and the Scandinavian countries, then the US proceeded to devaluations to thwart the deflation-depression. This Turkish refusal caused a revaluation of the TL. The Sterling exchange rate was lowered to 7,05 TL, and the Dollar rate to 1,71 in 1933; an appreciation of 32 and 19 percent respectively. However, we cannot argue that the Turkish officials behaved in a completely irrational manner. Agricultural products constituted almost all of the Turkish exports and their prices depend heavily on the world prices. The decision to permit the TL to appreciate was reverting, indeed, to put pressure on the exporters’ incomes, particularly on those of farmers of the Aegean Region. This was not made to keep the demand.

We have seen that the monetary stock contraction was extremely limited. This proves that the Turkish economy did not suffer significantly from the banking panics. Spectacular banking runs did not occur in 1930s, however, a number of banks failed. The crucial point is that these banks were all local ones, with a unique branch and very limited amount of deposits (see above). As it is explained in section 3, the Turkish banking system was composed of, beside these local banks, the well established European banks and a few big national banks. Foreign banks were inherited from the Ottoman times and the public or the quasi-public (İş Bankası) bank were strongly backed by the political power. There were, at least psychologically, no reasons to question the solidity of these banks.

In terms of profitability, and looking at the balance sheet problems, we must underline some of the structural aspects of the Turkish banking system. There were no developed financial markets, no significant financial assets, no mortgages and no long-term consumer loans in the balance sheets. Therefore, Turkish economy did not face any adverse balance sheet effects originating from financial distress or from the debt-deflation mechanism. The failure could only come from the lost credits, majority of which were given for commerce. And this did not happen since the depression had been avoided, except in 1932. Nevertheless the debt-deflation effect worked partially, increasing the bad loans’ ratios. This increase adversely affected the profits. The profitability of the banking system as a whole declined during 1930s, but this decline did not drive Turkish banks to failure, except for the local ones.  

25 When Sterling left Gold Standard, TL had been pegged to French Frank until 1936, the exit year of the FF from the Gold Standard. Then, TL continued to be fixed directly to gold (Tezel, 2000, p.173)  
26 We should also remember that it is hard to take a decision to reevaluate the TL in a democratic system. The single party rule in Turkey since 1925 was certainly there for a reason.  
27 The reasons of the failings were basically; the sudden increase of the bad loans following sharp price decreases of the agricultural products. These local banks were specialized in the finance of agricultural products.  
28 In this respect the example of İş Bankası, the biggest national-private bank with a ranking of 3rd, place, is interesting: The ratio of net profits to total assets decreased in the period 1929-33, from 3,15 to 0.96, to own resources from 31,4 to 7,06. İş Bankası was, indeed, losing money in 1930s from its credit
Having said this, absence of massive banking runs and failures, and the absence of an important contraction of the money stock as a result of that is neither a necessary, nor a sufficient condition for depression. Examples of Italy and Poland show that even though bank failures did not occur, thanks to the active intervention of the State in both cases, deflation-depression did (Temin, 1993). To investigate further the factors that are behind the Turkish growth despite deflation, we must take a look at the other components of the depression, like debt-deflation, high real interest rates and wage stickiness, and to check whether they were operative or not.

*Debt-deflation issue and the real interest rate puzzle*

Was debt-deflation operative in Turkish economy during the 1930s? The answer is “yes”, but we must also add “it was basically limited to farmers and to crop traders.” Mortgages were not in use, and since consumer durables were not widely spread, loans to buy them did not exist. On the other hand, as the farmers need medium term (one year) loans to finance their crops, and traders to finance their stocks, the debt-deflation issue has been on the agenda since 1930 with agricultural price falls. It is clear that nobody predicted such brutal decreases in the prices. Therefore, the real debt burden of borrowers increased dramatically during 1930 and the fears of non-reimbursement probably became a serious problem for the lenders. And, finally, as the agriculture was accounting for almost half of the GNP, the whole mechanism should have had an important impact on the aggregate level.

The damage caused by the deflation on the indebted farmers had serious consequences. The most troubled farmer was typically a market oriented one. Medium and big cereal producers, cotton and tobacco croppers were often in this situation. At the beginning, the tobacco croppers did not suffer from the debt-deflation because 1930 was a good year for tobacco. The production increased by 30 percent and the price stayed unchanged that year (Bulutay et al., 1974, table Ek 10). However, the tobacco croppers were also led into debt-deflation in the following years. The farmers who owed to usurers, most of whom were big landowners or tradesmen, lost their land. Most of these were the small to middle sized farm owners. Those who owed the loans to the banks, mostly to Ziraat Bankası (Public Agricultural Bank) lost their collaterals, if those existed, or their capacity to borrow.

The agricultural distress caused by the huge price decreases, and the catastrophic harvest of 1932 did not have an important impact on the banking system. Or, it was rather limited. Foreign banks were not active in the agricultural credit market. The big Turkish banks were not either. A certain number of local banks, however, (which were actually founded by the crop traders and big land owners in order to finance their own business) failed. But as explained above, these local banks had a very marginal part in the sector.

The net profits of İş Bankası were hold up, thanks to its industrial participations (Kocabasoğlu and his colleagues, Tarih Vakfı, 2001, p.182-185); this fact can be considered as an evidence of the profitability of the industrial sector, hence an evidence of its growth. The case of Ziraat Bankası is informative also: Its ratio of net profits to total credits was 0.034 in 1929, which is very low compared to the same İş Bankası’s ratio. Profits figures are not available for 1930,31 and 32. In 1933 the balance sheet of Ziraat Bankası becomes slightly negative.
The most important bank to be exposed to agricultural bad loans was *Ziraat Bankası*. However, it succeeded to overcome its financial difficulties rather easily for two reasons. First, it should be pointed out that *Ziraat Bankası* was not giving credits to farmers only. The part of its credits allocated to trading activities was quite important. Second, its capital increased almost ten times between 1924 and 1930, thanks to the State. Its capital had reached 100 million TL in 1930 (Tezel, 2000, p.408), counting roughly for 5 percent of the 1929’s nominal GNP. Its profitability declined. Even though a loss appeared in 1933 (see footnote 27), the loss was insignificant compared to its capital. So, *Ziraat Bankası* never did face a banking run.

It is for sure that during the first year, the deflation was not anticipated; but then? We do not have a clear picture of the nominal interest rates in the 1930s. An indirect calculation made by Bulutay and his colleagues for *Ziraat Bankası*, shows that the ratio of the interest and commission incomes to the total amount of credit declines from 14.6 to 6.8 percent, following a regular path from 1929 to 1933 (Bulutay et al., 1974, table Ek 40). This ratio can be accepted as a proxy for the interest rates, but only assuming a stable ratio of non-performing credits to total credits. This assumption is rather irrational, since the farmers’ distress would have increased the said ratio significantly. Our inquiry in the Ottoman Bank archives provides another picture. Credit’s information letters sent by the branches to the Executive Committee in Istanbul, as well as decisions of this committee show that interest rates, excluding commissions and other expenses, did not vary at all. The nominal interest rates observed in these documents for the period 1928-1932 are 8.0, 9.0, 9.0, 8.5 and 9.0 percentages for each year consecutively. Another evidence of this surprising interest rate stability is given by the deposit rates: They varied around 2-3 percent during the whole period. This is unbelievable because the existence of deflation is totally out of the picture, just like it was the reality of an other world. In addition, according to another Ottoman Bank document, one can state that the interbank rate was 6 % in 1931. And we have already mentioned, Central Bank started with a discount rate of 8 percent.

Given these stoned interest rates and following Bernanke’s reasoning, we must conclude that deflation was not anticipated. Not only at the beginning but also in the following years, officials did not anticipate the deflation. In case of this non-anticipation we must admit that borrowers started to pay sky high real interest rates. Given the deflation rate one can easily calculate the real interest rates of the period: They should have been varying between 20 and 30 percent!

If these enormous real interest rates were not anticipated, it should be admitted that there would have been, most probably, more bankruptcies, and less growth in the non agricultural sectors. We know that the growth was there. At least that is what the available information tells us. In case of deflation and if the ex ante real interest rates

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29 The non-agricultural credits of Ziraat Bankası increased from 29 to 37 percent between 1929-1933 (calculated from Bultay an alias, 1974, table Ek 40).
30 Branch reports nb. 166A002, 234A00,219002, Decision of 17.07.1932.
31 An Executive Committee decision of the Ottoman Bank, dated of 02.07.1931, about a legal dispute with a depositor, admits that an interest rate of 2 percent per annum has been paid to this depositor till 31 of December 1931 (OB Archives, nb. 123A004). The accounts of Ziraat Bankası, assert further that the ratio of interest and commission expenses to total amount of deposits varied from 2.1 to 3.2 percent between 1929 and 1933 (Bultay and alias, 1974, table Ek 41)
were anticipated, how were banks able to sell money? Or in reverse, how were the businessmen willing to borrow credits? These behaviours could have been possible only if the profitability in the non-agricultural sectors, particularly in the industry, were high enough to offset the various costs of the deflation, originating either from the debt side or from the real interest side. Let’s start, now, to investigate this profitability issue, analysing the evolution of the real wage costs.

*The wage stickiness*

As it has been already stressed in section 2, the wage stickiness is one of the key explanations of the deflation - depression process. What could be the reasons ever, nominal wages did not fall in parallel with the industrial prices in the countries suffering from the Great Depression (see table 2.4). So, real wages, or better to say product wages (nominal wages in terms of producer prices), increased quiet a lot and jeopardised the profitability of firms. Obviously, the standard supply side effect, namely the contraction of the production to a level compatible with the increased marginal cost of labour follows in this case. Since the Turkish industry had achieved very high growth rates, while a sharp deflation was going on, the evolution of the product wages becomes a very interesting issue. Table 4.3 contents the figures of nominal wages, industrial prices, product wages, consumer prices and finally real wages based on consumer prices.

**Table 4.3. Wages and prices: 1929-1934**

<table>
<thead>
<tr>
<th>Year</th>
<th>Nominal wages (TL/Month)</th>
<th>Nominal wage index</th>
<th>Industrial price index</th>
<th>Product wage index</th>
<th>Consumer price index (Lst.)</th>
<th>Real wage index (Nominal wages/consumer prices)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>47.1</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1930</td>
<td>41.5</td>
<td>88</td>
<td>77</td>
<td>114</td>
<td>92</td>
<td>105</td>
</tr>
<tr>
<td>1931</td>
<td>42.5</td>
<td>90</td>
<td>65</td>
<td>138</td>
<td>87</td>
<td>104</td>
</tr>
<tr>
<td>1932</td>
<td>39.4</td>
<td>84</td>
<td>51</td>
<td>165</td>
<td>85</td>
<td>101</td>
</tr>
<tr>
<td>1933</td>
<td>44.0</td>
<td>93</td>
<td>48</td>
<td>194</td>
<td>76</td>
<td>122</td>
</tr>
<tr>
<td>1934</td>
<td>50.0</td>
<td>106</td>
<td>50</td>
<td>212</td>
<td>75</td>
<td>141</td>
</tr>
</tbody>
</table>

Sources: Nominal wages and consumer prices from Şevket Pamuk (Pamuk, DIE 2000, tables 5.1 and 2.1), Industrial prices from Tuncer Bulutay and his colleagues (1974, table l Ek 25)

Before starting to comment the evolution of the nominal and real wages, we have to remark the sudden jump of the wages in 1933. This year we know that the price level made a sharp fall (table 3.1) and the consumer prices remained stable (table 4.3). Hence, there is absolutely no reason for such a jump of nominal wages to occur. Obviously, we have a methodological problem here. For this reason we exclude from the analysis the years 1933 and 1934.

In the deflationary environment of the 1930s, the nominal wages decreased much lesser than the industrial prices: the decrease in the nominal wages was, indeed,

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32 Pamuk took the wage figures for 1933 and 1934 from Bulutay (1995, table 9.1, p.305). Bulutay calculated the average wages based on the aggregate wage earnings and the number of employees. Well, the number of employees fell suddenly in 1933 (by 12 percent) (Bulutay, table 7.A, p.215), while the production continued to increase. Obviously, one of the two estimates is wrong, probably the number of employees.
limited to 16 percent from 1929 to 1932, while at the same time industrial price level decreased by 49 percent. As a result real wage cost, or product wage increased by 65 percent. No doubt that this constituted a real shock for the manufacturing firms. How can the high rigidity of the Turkish manufacturing wages be explained? Except a few numbers of public enterprises at this time, the great majority of the firms were too small to have any monopolistic power. We think that competitive environment can be envisaged for Turkish economy in this period. Given the absence of trade unions (they have been forbidden in 1925) there were neither the use of collective bargaining, nor the long-term contracts. We also think that it is needless to discuss other theoretical explanations of the wage stickiness, like “efficiency wages”, or “insiders-outsiders”.

The most plausible explanation of the wage stickiness in Turkish economy during these deflationary years should be searched in the Ricardian “natural wage” approach. In fact, given the very low income per capita (30 percent of France’s income per capita, and 60 percent of Greece’s income per capita in 1930s, Pamuk, 2001), we can assume that the level of the average wage was not very far from the “natural wage”, which is usually defined as the value of a consumption basket constituted by the basic needs, such as food, clothing, shelter etc. In this respect, it should be admitted that the consumer prices were the major determinant of the nominal wages. Well, the consumer price index (see Table 4.3) declined only by 15 percent. It should be noted that the rate of the decrease is very close to the rate of the nominal wage decrease (16 percent). In other words, we can assert that the consumer price level was determining the nominal wage level. This did not allow the real wages, or the purchasing power of the wage earners, to improve; after a limited increase (4-5 percent) of the purchasing power in 1930 and 1931, the real wage index went back to its 1929 level in 1932 (Table 4.3).

The wage stickiness was an undeniable fact in Turkish economy during 1930s. Then, how to explain the increase of output? Some theoretical explanations can be asserted. The common sense requires that some adverse costs’ savings should have compensated the huge increase of the real wage costs. The candidates, at first glance, are the raw material costs. Food and textile firms being dominant in the sector, the decrease by a half of the input prices for these firms should have partly compensated the increased wage costs. Assuming the ratio of input to wage to be one to half, and a 20 percent margin for financial expenses and profits, the input price deflation of 50 percent is far away of compensating the increase of the real wage cost in the case of a decrease by 50 percent of the product prices. Therefore, we still have a puzzle concerning the product prices, since we know that industrial price index felt to 51 in 1932 (Table 4.3). But, it should not be forgotten that the index includes consumption goods as well as intermediary ones. We do not know the respective weights of each of these categories. Regarding the consumer price index, we can imagine that the prices of the food and textile industries decreased less than the others. In other words, we can assert that these industries benefited from positive relative price movements. This assertion can be held only in case of an external or a systemic shock. And, there has been such a shock, namely, the protectionist measures implemented one after another within a very short time.

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33 Consider the following fixed quantity structure for a unit of representative consumption good: \( 1,9 = 1,0 + 0,5 + 0,4 \) at T0; assuming a 50 percent deflation for inputs, but only a 16 percent for wages, and a constant profit amount, the unit price becomes at T1, \( 1,23 = 0,5 + 0,42 + 0,4 \); this new price is not compatible with a 50 percent deflation of output, which equals in this setting to \( 1,9/2 = 0,95 \).
We have any doubt that the industrial growth of 1930s required a degree of profitability at least close to the level of 1920s and also a sustained demand. We will come back to the demand issue very soon. Concerning profitability, as it was pointed out above; it was significantly depending on the relative price increase of the consumption goods. This can happen only in case of a strong protectionism, consisting of high custom tax increases as well as large quantitative restrictions (quotas or pure interdictions). And this has been the case in the Turkish economy during 1930s (Pamuk, 2001; Gürsel, 1999).

Turkish Government started to take protectionist measures on October 1929. The timing is neither a coincidence nor related to the world depression. The date is not a coincidence because this is simply the date of the termination of the Lausanne Treaty’s clauses, concerning the foreign trade regime. The agreement to keep the existing free trade regime (section 3) for five years was valid until September 1929, as the Treaty has been legally implemented in August 1924. Obviously, the choice of the date to begin to implement a severe protectionist regime was not related to the world depression, for the simple reason that the depression had not started yet.

Turkish Government adopted a new economic development strategy, based on protectionism / import substitution in Al-i İktisat Meclisi (The Great Economic Assembly) assembled in June 1929. In October 1929 new specific tariff rates were introduced. The average effective rate of protection went up from 26 percent to 38 percent (Tezel, 2000, table 5.1). Then, the tariff was regularly increased, especially due to deflation (the import prices decreased by 44 percent; Tezel, 2000, p.167), and the effective rate reached 54 percent in 1933. Investment goods, as well as intermediary goods, which were not domestically produced, were exempted from import duties or weakly taxed. This first wave of protectionism has been followed by multiple decisions of quantity restrictions in 1931. Further restrictions and financial rules for imports were adopted in the following years (Yücel, 1996, p.76).

It is not surprising that the trade deficit of 1920’s turned into a surplus within a year, precisely in 1930. Trade deficit has been 50 and 100 million TL in 1928 and 1929 respectively. The big increase of 1929 had been caused by a speculative import boom, which took place between the decision to switch from free trade to protectionism in June 1929 and the increase of import tariffs in October 1929. The two years (1928-29) average deficit of 75 million TL was corresponding to 4 percent of the average GNP. After 1930 trade surpluses appear. In 1933 there was a trade surplus of 21,5 million TL, corresponding to 2 percent of the GNP. It is worth to note that the reversal of the situation happened while exports were staying in real terms and terms of trade were adversely evolving: The index of these terms (1927/28 = 100) felt from 84 in 1929 to 61 in 1933 (Tezel, 2000, table12.1, p.426).

These figures suggest already that Turkey experienced a heavy import repression in 1930’s. But it is possible to get more evidence on the intensity of this import repression from import data. We made an estimation of the real values of imported
consumption goods from 1928/29 to 1933, making some corrections on the values of imports expressed in current Sterling. These corrections are twofold: Sterling has been depreciated against TL from 1931 to 1933: The index (1930=100) of the Sterling-TL exchange rate is: 1931=94, 1932=73 and 1933=63. Hence, the first correction is aimed to express the value of imports in Sterling of 1930. As we need to know the changes of the imported amounts in real terms, the nominal value of imports have to be inflated by a price index. Unfortunately, the information on import prices is not available. Simply we know that import prices decreased by 44 percent during the period in consideration (Tezel, 2000). This rate is very close to the aggregate rate of the industrial price decrease, which was 52 percent (Table 4.3). We think that the industrial price index is capable to constitute a good proxy for the imported prices, since the estimated changes are enormous (Table 4.4). The second correction transforms the values of imports, expressed in 1930’s Sterling, by inflating these values with the industrial price index, to get finally, the amounts of import in real terms. Results for food, clothing and remaining consumption goods are provided in Table 4.4.

Table 4.4. Real changes in the importation of the consumption goods: 1928-1933
(In thousand of constant Sterling of 1930)

<table>
<thead>
<tr>
<th></th>
<th>Food stuff</th>
<th>Index</th>
<th>Clothing</th>
<th>Index</th>
<th>Other goods</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1928/29</td>
<td>4.390</td>
<td>100</td>
<td>6.457</td>
<td>100</td>
<td>1.580</td>
<td>100</td>
</tr>
<tr>
<td>1930</td>
<td>2.413</td>
<td>55</td>
<td>4.640</td>
<td>72</td>
<td>742</td>
<td>47</td>
</tr>
<tr>
<td>1931</td>
<td>1.708</td>
<td>39</td>
<td>5.312</td>
<td>82</td>
<td>949</td>
<td>60</td>
</tr>
<tr>
<td>1932</td>
<td>1.494</td>
<td>34</td>
<td>3.819</td>
<td>59</td>
<td>830</td>
<td>53</td>
</tr>
<tr>
<td>1933</td>
<td>976</td>
<td>22</td>
<td>3.488</td>
<td>54</td>
<td>417</td>
<td>26</td>
</tr>
</tbody>
</table>

Sources: Tezel, 1984; Beş Vekalet Umum Müdürlüğü, Dış Ticaret İstatistikleri and exchange rate statistics.

The biggest impact of the protectionist measures was on the food stuff. The amount of these goods declined by 78 percent. The example of sugar is very informative in this connection. The clothing items were less but significantly affected; they lost almost half of their values. Finally, other consumption goods were affected as severely as food. Our calculations showed that the whole amount of loss in consumption goods imports in 1929 prices had reached 76,3 million in TL and this value was equalling 40 percent of the of the industrial value added of the 1929 (186,7 million TL in current prices). This gives a potential annual growth rate of 8.5 percent in the manufacturing for four years (1930-33). In addition, the real increase in the cotton threads (fibres), calculated with same methodology, was 42 percent, while cotton cloth import was declined by 46 percent (table 4.4) Let me remark, in the Industrial Survey of 1927, food and clothing manufactures were counting for approximately 70 percent of the manufacturing sector (Yücel, p.116)

There is no doubt that a violent import substitution in the consumption good sectors occurred in 1930’s. The substitution of the imported goods by domestic ones, can explain a quite important part of the output increase in the manufacturing sector but not the totality. Let me remind that, according to Bulutay and his colleagues’ estimation, the real output in 1933 was 79 percent higher than its 1929 level (table
This impressive increase corresponds to an annual growth rate of 15 percent. Well, from where did the additional demand come? In order to finalise our investigation of the deflation-growth process in Turkish economy, we have to check some final points, like changes in income and investment. Indeed, even though a minimal level of profitability was secured from the supply side, thanks to extensive and harsh protectionist measures, estimated industrial growth rate requires, besides import substitution, an increase in real income and investment.

Aggregate demand, industrial growth and distributional issues

Table 4.5 summarises the available information on the main components of the aggregate demand (Bulutay, 1974, table 9.6). Public expenditures (wages and salaries + other purchases), private consumption and investment are expressed in 1948 prices and real changes in percentage points. The most striking aspect of GDP components is the very high volatility of the private consumption. At first sight, this volatility seems to be originated by the instability of agriculture (see table 3.2). In order to eliminate this interference, we calculated new figures for private consumption excluding food consumption (table 4.6). As there is no data available for different parts of private consumption, we used the agricultural value added as a proxy for this purpose. In other words we supposed that food expenditures are equivalent to agricultural income. In an economy where half of the GDP is agricultural production in which two third is auto consumption; this assumption would not be too unrealistic. Furthermore, one can assert that, with this approximation, the consumption excluding food would be a little over estimated since the food processing value added is not taken into consideration.

Table 4.5. Evolution of the aggregate demand: 1929-33
(in 1948 prices, million TL)

<table>
<thead>
<tr>
<th></th>
<th>Private consumption</th>
<th>Change (%)</th>
<th>Investment</th>
<th>Change (%)</th>
<th>Public consumption</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>4 537</td>
<td>-</td>
<td>637</td>
<td>-</td>
<td>487</td>
<td>-</td>
</tr>
<tr>
<td>1930</td>
<td>4 108</td>
<td>-9,4</td>
<td>649</td>
<td>1,9</td>
<td>638</td>
<td>31,0</td>
</tr>
<tr>
<td>1931</td>
<td>4 715</td>
<td>14,8</td>
<td>461</td>
<td>-29,0</td>
<td>677</td>
<td>6,1</td>
</tr>
<tr>
<td>1932</td>
<td>3 885</td>
<td>-17,6</td>
<td>460</td>
<td>0,0</td>
<td>724</td>
<td>6,9</td>
</tr>
<tr>
<td>1933</td>
<td>4 228</td>
<td>14,0</td>
<td>532</td>
<td>15,6</td>
<td>833</td>
<td>15,0</td>
</tr>
<tr>
<td>1929-33</td>
<td>-</td>
<td>-6,8</td>
<td>-</td>
<td>-16,5</td>
<td>-</td>
<td>71,0</td>
</tr>
</tbody>
</table>

Source: Bulutay et al. 1974, Table 9.6

34 Some quantity (in tons) increases are quiet impressive: The production of sugar has been multiplied by 8, production o cotton clothes by 2,5 and production of wool clothes by 1,5, and cotton threads also by 2,3 (Yücel, table 6.6, p118)
Table 4.6. Private consumption excluding food: 1929-33
(in 1948 prices, million TL)

<table>
<thead>
<tr>
<th></th>
<th>Private consumption (excl. food)</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>1 894</td>
<td>-</td>
</tr>
<tr>
<td>1930</td>
<td>1 566</td>
<td>-27,0</td>
</tr>
<tr>
<td>1931</td>
<td>1 807</td>
<td>15,4</td>
</tr>
<tr>
<td>1932</td>
<td>1 811</td>
<td>0,2</td>
</tr>
<tr>
<td>1933</td>
<td>1 901</td>
<td>5,0</td>
</tr>
<tr>
<td>1929-33</td>
<td>-</td>
<td>0,4</td>
</tr>
</tbody>
</table>

Source: Bulutay et al. 1974, Table 9.6 & 8.2

As it can be observed through the Table 4.6, the exclusion of food (agriculture) does not lower the volatility, but in contrary, multiplies that. It is not easy to explain the decline of private consumption in 1930: 9.4 percent in total, 27.0 percent excluding food. Can it be a psychological shock caused by the suddenness of the import repression? Moreover, this repression was not limited to the goods competing the domestic ones, but the prices of the “luxury” goods were severely repressed.\(^{35}\) Any way, if we take into consideration the whole period, it is clear that the private consumption, counting for roughly 80 percent of the Turkish GDP remained constant in the best scenario.

The investment figures are very intriguing. Bulutay and his colleagues used regression coefficients related to machinery imports and industrial value added. Industrial output was increasing at very high rates (around 15 percent) according to them (table 3.2). As for the index of imported machinery, based on 1929 prices, it increased to 119 (1930) and then to 132 (1931) to decrease to 105 (1932) and to 92 (1933). There is an inconsistency between the changes in investment (table 4.5) and the changes in machinery imports as well. The important slowdown of the first years fit with neither the industrial growth, nor the machinery imports.\(^{36}\) We can ask if this amount of investment was even capable to support the manufacturing growth rates lower than those estimated by Bulutay and his colleagues. The investment during 1930’s remains an open question.

\(^{35}\) The import of motor vehicles decreased by two third within a year (from 1929 to 1930) and it became insignificant in 1942. The unique example of price increase might have been the price of fuel: It went up by 10 percent in nominal terms, corresponding to a relative price increase of 60 percent approximately.

\(^{36}\) Calculation of machinery imports is based on table 9.5 (Bulutay et.al, 1974.) and table 3.7 (Tezel, 2000). The weight of machinery imports, calculated from this regression, is higher then the weight of the industrial value added: 0.53 to 0.47. (Bulutay et al.1974, p.123) This is curious, since the share of the imported machinery in the total imports was limited to 3.8 percent in 1929, then jumped to 7 percent in 1930. Another fact is that the construction was over represented in investment: its share was varying around 85 percent, and the construction sector declined quite significantly in 1930’s. This is another open question. However, when we exclude the construction from the investment, the remaining part, made of machinery and equipment, still declines in real terms by 3.5 percent until 1932. In 1932, there is an increase of 9 percent compared to 1931. The volume of machinery and equipment in 1929 is 5 percent and 16 percent higher than its volume in 1932 and 1933 respectively (Bulutay et al., 1974, tables 4.5 and 9.2). This evolution fits better but not totally, with the high industrial growth.
The evolution of private consumption and to a lesser extent the evolution of investment, suggest that the additional demand other than provided by import substitution, was rather absent. The unique component of the aggregate demand increasing significantly has been the public consumption (expenditures). The increase reached 71 percent by the end of the period (Table 4.5) and the GNP share of this component passed from 8,6 percent to 12,5 percent. At the first glance, this increase can appear as a demand expansionary “Keynesian” policy. Or, the fiscal policy of the Turkish government was not less orthodox than its monetary policy. A balanced budget was the rule of thumb (Görgün, 1981). From the beginnings, Republican Government pursued a solid fiscal policy. The budget was always voted balanced by the National Assembly. Surpluses or deficits resulted only from implementations. The surpluses were, indeed, more frequent (1929, 1930, 1932) than the deficits (1931, 1933). But anyhow, surpluses and deficits were varying within a range of 0.3-0.5 percent of the GNP. This limit has been over shoot only in 1932; but the deficit did not exceed 1,6 percent of the GNP (Görgün, table 1, p.77).

In this context it is not very difficult to explain the massive increase of the public expenditures: 71 percent in real terms (Table 4.5). Public authorities (government, municipalities and other public bodies) kept fixed the wage and salaries of their employees, and the deflation did the rest. The total amount of wages and salaries in the public sector decreased from 108,6 million TL (1929) to 98,5 million TL (1933) in current prices. When 1933’s figure is inflated by 1948 prices, it increases to 205,2 million TL, an increase of 89 percent. We can also add that, wages and salaries constituted 69 percent of the public expenditures in 1933. Their share passed from 5,2 percent of the GNP in 1929, to 8,6 percent in 1933. Furthermore, the number of employees in the public sector seems to be reduced. And there is no single story about massive hiring in the public sector. Obviously, the income per capita has been tremendously increased among public employees.

Here we come back to the “golden age” story, suggested in the introduction. The public employees, constituting a minority in the population benefited from the deflation, increasing massively their purchasing power, thanks to the formidable rigidity of public wages (What is responsible? Inertia or self-interest?). We can add to public employees, even few firm owners. Finally, the industrial growth in Turkish economy during the Great Depression seems to be mainly the result of a severe import repression / a forced import substitution. The big real income gains of the minority, basically composed by public employees, could not add more than a few percentages points to the growth, provided already by the import substitution. The semi official estimation of Bulutay and his colleagues of the industrial growth rate, roughly 15 percent per annum is most probably overestimated. A plausible range for the industrial growth rate can be situated between 7 (Zendisayek, 1997) and 10 percent (our own estimation).

This growth cannot be, off course undervalued because in the same years a great majority of the countries were suffering of a deep depression. But, it cannot be forgotten also, that this growth had a heavy cost in terms of social welfare and justice. The foreign goods have been replaced by the domestic ones of poor quality, either

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37 There is no data on the number of the “wages and salaries earners” in the public sector but the date on the “numbers of potential openings” is available. According to these figures, the number decreased from 116 to 98 thousand in the 1929-33 period (Bulatay, 1995, table 9.A, 293).
through a huge relative price change or through prohibitions. This process of substitution has not been only a market process. The market process has been supported by a massive ideological-political campaign called “domestic good manifestations”. The industrial growth had also a social cost. A very intense redistribution of income from farmers to public employees and to urban bourgeoisie occurred during 1930’s. The working class does not seem to have benefited from this distribution. Most probably its purchasing power remained constant through out the period.

5. Conclusion

During the years of the Great Depression, Turkey succeeded to avoid the main adverse consequences of the deflation-depression process. At the first glance, we can point out large contractions of GNP and massive unemployment. In Turkey, overall GNP stayed almost constant, but the industry, especially the manufacturing sector experienced high growth rates during the years of the Great Depression. Nevertheless, a sharp deflation occurred in Turkish economy at the same time as the world economy. But the deflation did not have the similar devastating effects than it had in other countries, especially in the developed ones.

The deflation played, indeed, a key role in the depression. A debt-deflation mechanism pushed the indebted agents, like households who had borrowed to pay their purchases of consumer durables, to restrict their consumption or mortgages or like firms which owned net credits to banks, to revise their planned investment. In extreme cases, and they were more frequent than usual, increased dept burdens provoked loss of collateral and bankruptcies. One straightforward effect of the debt-deflation was the restriction of the effective demand. Another effect was the increasing bad loans, bank runs and massive asset sales by the banks, disparately in search of liquidities. These massive asset sales decreased further the asset prices, adding to the difficulties of banks. Deposits declined and in some countries, US being the most affected, bank failures increased tremendously. Finally, the money stock contracted, aggravating the deflation and lengthening its duration.

Debt-deflation mechanism did not operate that much in Turkish economy for the simple reason that, the consumer durables and mortgages had not entered Turkish market yet. Hence, indebted households did not exist, at least at significant extent. The farmers were the most influenced by the debt-deflation, but the impact of their financial difficulties on the banking sector have been limited. This limitation had different reasons. First, small and medium sized farmers owned money especially to usurers, not to banks. Those ones lost often the totality or part of their lands. As these farmers were partially integrated into market, the degree of their demand restriction

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38 Let me quote Rüştü Bey, deputy of Bursa: “The obligations set in the Law to motivate the consumption of domestic goods are loose. For example, when you are going to a shop in İstanbul, the shopkeeper says, ‘domestic good is not worthy and European good is available and it is better’. What does it mean not worthy? It means that independence is not worthy and slavery is better. This kind of men must be hanged in front of their shops.” (speech pronounced in November 1931, in the National Assembly, Kuruç, tome 1, p.199). Well, no shopkeeper has been hanged for not purposing domestic goods to his costumers, but the violent nature of the discourse gives a good idea about the ideological-political atmosphere prevailing at these times of “parti unique”.

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has been very limited. The banks which usually gave credits to the agricultural sector suffered a lot. There were two categories of these banks: Small and local ones and Ziraat Bankası, the biggest Turkish bank, publicly owned. The small ones failed, as it can be expected. Ziraat Bankası lost its profitability, but not the important part of its own resources, since its credits were not directed exclusively to the agriculture.

We have not enough information about indebted firms. Even though, some points can be underlined. The size of manufacturing firms, as well as their fixed capital requirement was very limited. The investments were particularly self-financed and the bank credits were mostly used as working capital. The terms of loans were not more than one year. Nevertheless, the intense deflation of the 1930, which could not be anticipated, would have affected negatively some firms. The decrease of banks profits suggests that bad loan problems were present. But these problems did not go up to provoke extensive bank failures. It is interesting to note also, sky high real interest rates prevailed, since the deflation was very deep, while the nominal interest rates were staying almost constant. Besides the issue of whether the deflation was anticipated or not, in other words whether real interest rates were ex-ante or ex-post, sky high rates caused neither extensive bankruptcies, nor investment collapse. However, this aspect of the Turkish economy has to be investigated more deeply and carefully.

The Great depression was not the product of only financial, as well as demand shocks. A supply side effect was operative also i.e. the wage stickiness, causing real wages, or labour costs to increase. A high rigidity of wages, hence labour cost existed also in Turkish economy. Nevertheless, the price effects of the protectionist measures have compensated the additional cost. Turkish government, decided to end the prevailing free trade regime, to restore capital controls and to adopt a fixed exchange regime, as soon as the five-year agreement for an open market economy of the Lausanne treaty, was over. In other words, just before the Great Depression started.

A very extensive and harsh protectionist regime was rapidly implemented after October 1929. Turkish economy became a highly protected economy within a year. The closure of the economy continued in 1931 with the establishment of very restrictive quotas. A severe import repression resumed. Imported consumer goods have been substituted by domestic ones at a large extent. This forced substitution explains the major part, if not the totality, of the industrial growth. We think that the classical estimations of Bulutay and his colleagues, picturing a booming industrial sector, suffer from over estimation. Some inconsistencies in the figures exist also. For example, while industrial sector was booming, industrial employment was declining (Bulutay, 1995, table 7.A); while cement production was doubling, construction was contracting.

There are still open questions for this period of “growth despite deflation”. Estimations have to be renewed. The internal consistency of the whole economy can be checked by a computable general equilibrium model, designed for 1930’s. This kind of model can also help, if it would be possible to construct one, to discuss some contra factual scenarios, like “Turkish economy with deflation but without protectionism” or “with protectionism but without deflation”. However, some results and consequences can hardly be denied.
Public employees and the urban bourgeoisie were the unique social categories who benefited from deflation and growth. As the earnings of the public employees and public workers were stagnating in nominal terms, their purchasing power increased quite a lot during 1930’s. But these social categories constituted a small minority, in a population largely dominated by farmers who were the big losers of the world deflation. The unintended income redistribution in favour of republican elites, who were forming the majority of the public employees, has been the major factor in the emergence of the “myth of kemalist golden age”. This myth had lasted very long in the collective memory of republican elites, and had also had long term effects on the economic policy choices. We can assert that the traditional cleavage between a closed command economy and an open market economy, which prevailed until nowadays in Turkey, had part of its roots in the period of “growth despite deflation” that we attempted to analyse in this paper.

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