Recessions of 1919-1930: the agricultural cycle in a decade of changes in the fiscal, monetary, and political regimes.

Recession | PEAK: 1923 - TROUGH: 1924

Recession | PEAK: 1927 - TROUGH: 1928

These eleven years were at first characterized by the aftermath of the negative effects of the Great War on supplies, the explosive inflation, and the skyrocketing public deficits. The stabilization of public finances and the normalization of monetary policy in the mid-1920s did not have an immediate effect on economic growth, only making a sustained impact in the following decade. In a climate of volatility, the two significant business cycles ended up being associated with the agricultural cycle, with poor harvests and years of low olive yields coinciding to cause recessions.

1. CONTEXT

From a social and political perspective, this period of over a decade was highly turbulent. The end of World War I was accompanied by the assassination of the President of the Republic, Sidónio Pais, in December 1918. Supply shortages and rampant inflation led to protests, strikes, and frequent attempts to overthrow the regime with short-lived governments. The coup led by Gomes da Costa in May 1926 inaugurated a military dictatorship in Portugal but did not immediately bring an end to social conflicts. It was only between 1930 and 1931, with the stabilization of the Armed Forces by General Óscar Carmona and the rise of Oliveira Salazar to power that social and political instability reduced.

Internationally, this era was marked by the rise of the American economy, as well as economic instability in Europe, including the failure of pound sterling to return to the gold standard and the German hyperinflation. Portugal was at this time a relatively closed economy that relied heavily on agriculture, often in a self-sufficient mode of production. Therefore, the direct influence of external shocks on the economy was limited, and none of these major international shocks directly affected Portugal intensely.

The main international influence during this 11-year period was indeed the aftermath of the shocks of World War I. Supply problems in coal, wheat, and other essential products continued during the early 1920s because the productive capacity in Central Europe took time to recover, and restrictions on international trade were only slowly lifted. The scarcity of vessels for the trade of cork, canned goods, or olive oil also took several years to correct, putting a brake on exports. Moreover, emigration, which had declined during the conflict due to border closures and transportation difficulties, did not quickly recover during this decade. In fact, both the United States and Brazil made it difficult for immigrants to enter, while Portuguese workers competed with immigrants from Ireland and Italy in search of jobs in the Americas.

In terms of fiscal and monetary policy, Portugal entered this period with high deficits inherited from World War I, as a result of military expenses and declines in tax revenues. The reform of the Banco de Portugal in April 1918 imposed the monetization of deficits, although it had already been practiced *de facto* since the beginning of the conflict. With the end of the price control system during the war, inflation accelerated, leading to widespread discontent. This, in turn, led to a public discourse against speculative behavior and to policies that attempted to respond to this social pressure by fixing prices. As early as 1919, the government subsidized bread production—the so-called "political bread"—which continued until 1923. Supply shortages led to the creation of subsidies for imported wheat in 1922, which had a significant impact on the public deficit, as well as substantial transfers to try to rebuild the merchant navy. In addition to the monetization of deficits, there was uncertainty regarding the country's ability to honor its burdensome war debt to the United Kingdom (20 million pounds in 1921). Equally uncertain was the payment of substantial war reparations by Germany to Portugal, amounting to 50 million pounds.

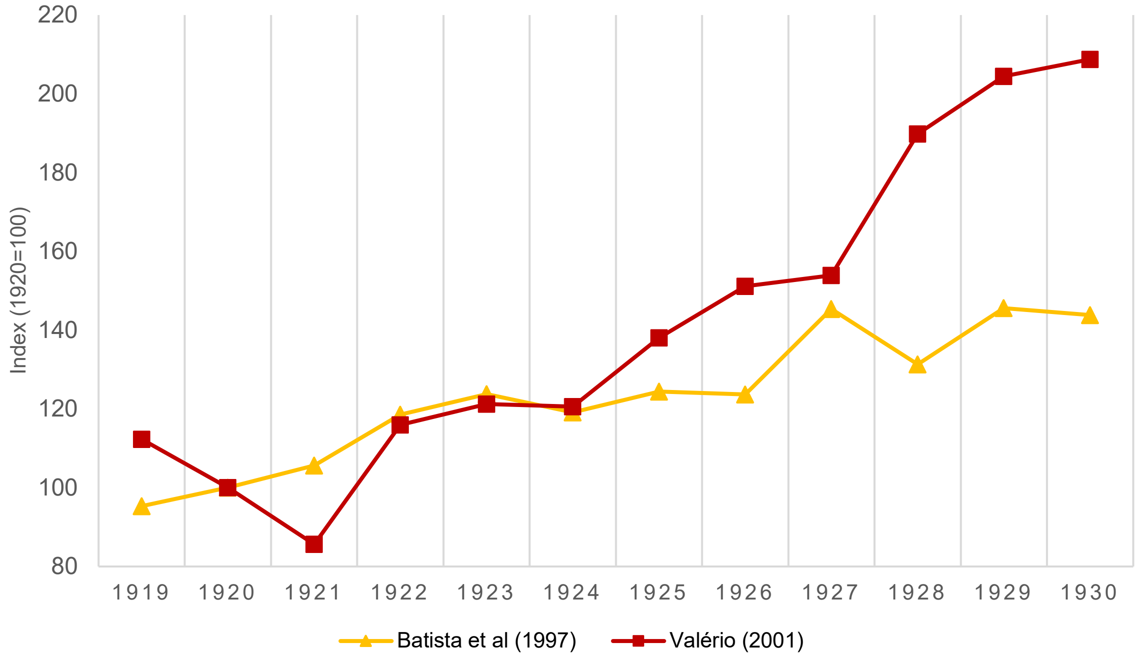
Finally, between 1919 and 1921, the country experienced a peculiar period of instability in the national financial system. Many banks opened and ceased operations, sometimes within a few months. Part of this frenzy was associated with the influx of foreign currency and the volatility of wine and cork prices in international markets, which nearly quadrupled between 1919 and 1920. Runs by depositors mainly affected provincial banks, leading to many mergers and acquisitions that strengthened the position of some national banks, such as Banco Nacional Ultramarino and Caixa Geral de Depósitos.

2. EVOLUTION OF THE ECONOMY AND CYCLICAL SHOCKS

Figure 1 shows the annual variation of GDP according to the two main measures available for that time (as described in the methodological notes). The economy grew at a moderate pace, but faster than in the previous decade, with real per capita GDP growth rates ranging from 3.3% to 3.9%, depending on the series used. However, the volatility was much higher than in other periods of the Portuguese Republic, with a standard deviation of 7.0% to 7.4%. This indicator reflects the (turbulent) transition to a period of less volatile growth (and, on average, lower) in the following decade.

An inherent problem with the retrospective series of annual GDP is the noise they may contain. Not only does this affect the volatility, but it also makes the use of GDP to date recessions in this decade less useful. While one of the series suggests only a contraction of GDP in 1928, the other points to a contraction between 1919 and 1921.

Fig. 1 - AGGREGATE GDP ACCORDING TO TWO SERIES



Sources: Batista et al. (1997): *nominal GDP in Batista et al. (1997).* Valério (2001): *nominal GDP in Valério (2001), retrieved from Valério (1998). The implicit deflator of the respective source is applied to each series.*

There are two relevant factors that suggest the use of other indicators. First, the turbulent monetary and fiscal regime dominates economic discussions and the policies adopted during this period. It would be expected to result in volatility. Second, the primary sector represented 33% of the output at that time (and 56% of employment), so inevitably the agricultural cycle should have a predominant effect on business cycles. The more detailed indicators for both factors, which we will discuss next, allow for dating recessions during this period.

The fiscal and monetary stabilization, and the turning point in 1924-26

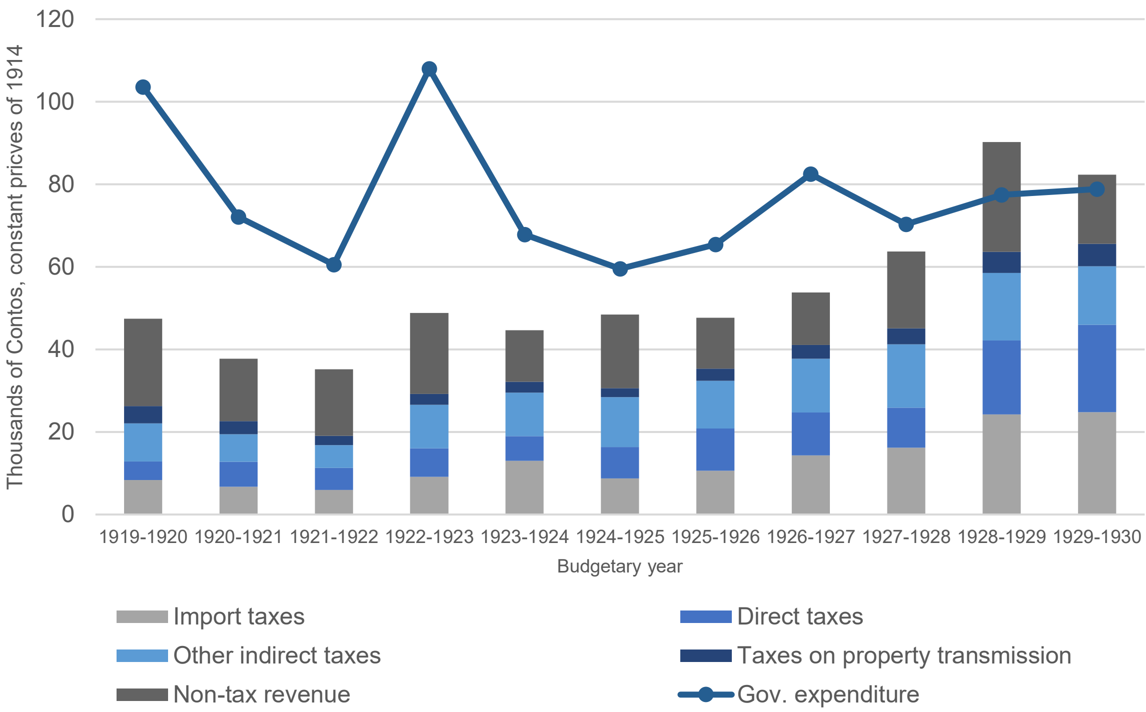
Portugal emerged from the Great War without a stable nominal anchor. The wartime inflation not only persisted but intensified in the following years. Prices tripled during the war; between 1919 and 1924, they increased tenfold. In 1920 alone, the price level jumped by 70%. The exchange rate against the British pound, which had remained relatively stable during the years of conflict, deteriorated sharply in the period 1919-1924. In fact, between 1910 and 1924, the Escudo depreciated as much as the Real had in its five centuries of existence.

The immediate cause of this inflation was the monetization of public deficits by the central bank. The money supply in circulation increased from 114 thousand contos in 1914 to 536 thousand contos in 1920, and then to 1,586 thousand contos in 1924

(Mata and Valério, 1993). Despite this rampant inflation, the interest rate set by the Banco de Portugal never exceeded 9%. Attempts to impose a mandatory official exchange rate failed, leading instead to a considerable black market.

Behind this monetization and subsequent inflation were the public deficits. **Figure 2** shows public spending and revenues during this period. Real tax revenue, which accounted for 12% of GDP in 1914, had fallen to just 4% in 1920 (Silva Lopes, 2005). At the time, most indirect taxes (mostly customs duties) were fixed amounts in Escudos per item. With inflation, real revenue necessarily declined. Yet, expenses remained high due to the high cost of various subsidies aimed at combating inflation and wheat scarcity. Although the public deficit decreased from 13% of GDP in 1919 to 3% in 1924, part of this reduction resulted from the lower costs of public debt due to high inflation and the end of war expenses. The primary balance remained high.

Fig. 2 - EVOLUTION OF GOVERNMENT REVENUE AND EXPENDITURE

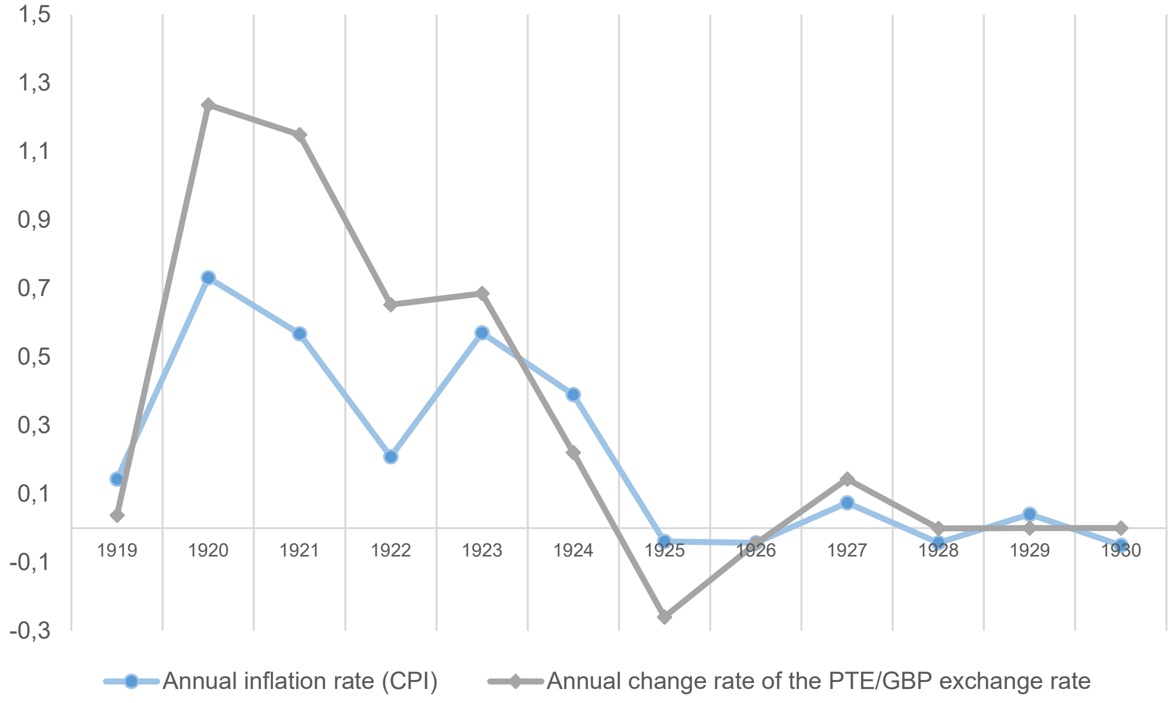


Sources: Nominal series: *Valério (2001). Deflated with CPI series from Valério (2001).*

The shift towards a sustainable fiscal situation only began with the fiscal year of 1922-23. It resulted primarily from a significant increase in taxes following a fiscal reform. The reform updated the customs tariffs and introduced proportional taxation, with a monetary correction to the tax base that would keep pace with inflation. In the following years, there was also an effort to contain public expenditure through successive reforms. The main reduction came from the elimination of subsidies associated with the unsuccessful attempts to stabilize prices. Fiscal stability would be consolidated in 1928-29 with the revision of the tax system on various forms of income and an increase in customs tariffs as part of an import substitution policy. Both measures brought an increase in tax revenues, leading to a budget surplus. Between

1923 and 1924, Prime Minister Álvaro de Castro embarked on a monetary stabilization program. Its central point was the immediate cessation of monetary financing for public deficits and a strong commitment from the government not to finance its deficits

Fig. 3 - INFLATION AND EXCHANGE RATES



Source: *Valério (2001).*

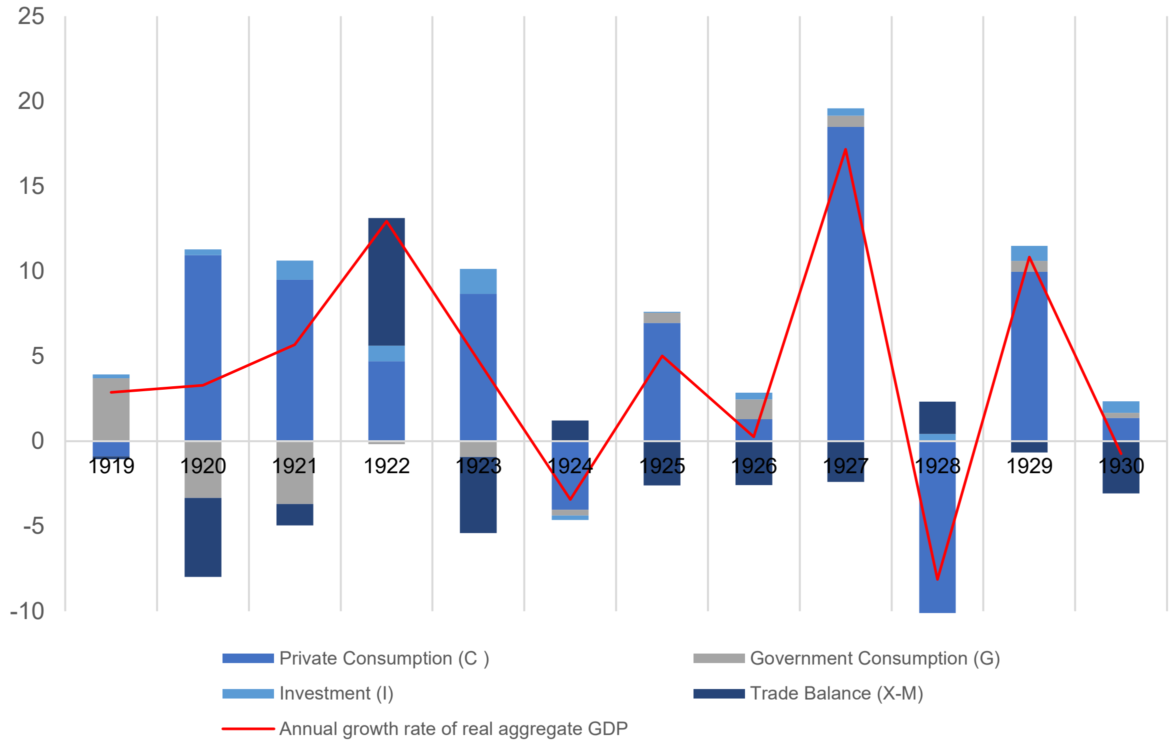
through the central bank. Alongside the fiscal reform, this program resulted in an immediate decline in inflation from the summer of 1924, as seen in **figure 3**.

With this rapid stabilization of inflation came stability in the exchange rate (**figure 3**). This reduced one of the main difficulties faced by the country: the payment for wheat imports, which affected bread production and had been a source of significant social instability in previous years. To consolidate this effort, Portugal intervened in the foreign exchange markets in 1924, resulting in not only the end of the devaluation of the Escudo but even a slight revaluation.

At this time, the Geneva International Conference advocated a return to the gold standard. Portugal, with the withdrawal from circulation of the silver currency from the monarchy (whose intrinsic value, during the critical period of inflation, exceeded its nominal value, leading to hoarding), accumulated silver reserves, which were sold in 1924 in exchange for foreign currencies. The military dictatorship government in 1928 rejected an external loan guaranteed by the League of Nations. Instead, they committed to an internal adjustment that would allow the accumulation of reserves and, thus, establish a credible exchange rate pegged to the British pound.

The effects of fiscal and financial stabilization are also seen in the breakdown of GDP in **figure 4**. In 1924 and 1926, the contraction imposed by fiscal measures and the return to positive real interest rates were reflected in a slowdown in private consumption expenditure, which then surged in 1927-29. From 1926 onwards, private investment had a positive but modest contribution to GDP. In contrast, in the early part of the decade, fiscal difficulties are evident with the negative contribution of public expenditure to GDP between 1920 and 1923. Debt interest, price subsidies, and support to different sectors absorbed a large portion of the public budget, necessitating a contraction in public consumption.

Fig. 4 - COMPOSITION OF REAL AGGREGATE GDP CHANGES (EXPENDITURE APPROACH)



Source: *Batista et al (1997).*

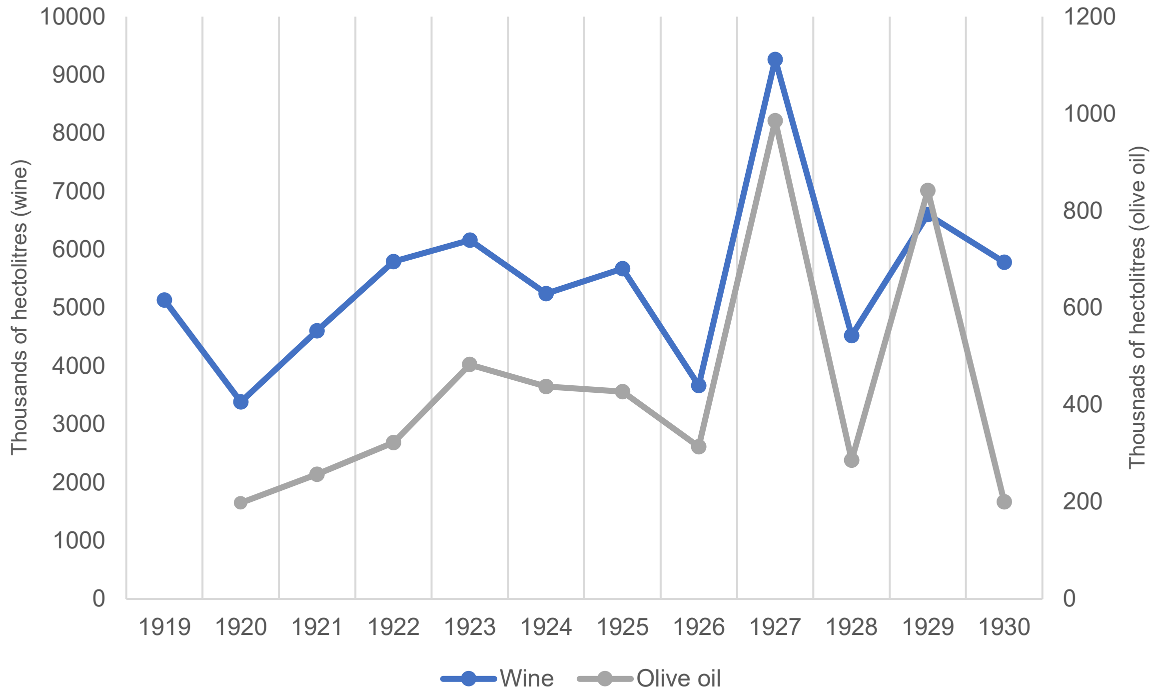
The agricultural cycle

Figure 5 shows the cycles of wine and olive oil production, while **figure 6** displays the cycles of the main cereals. These were the main agricultural productions at the time. In 1924, there was a slight contraction in olive oil production and a larger decline in wine production. Both would only recover in 1927. The contraction in wheat, barley, and oats was also significant, but these crops recovered the following year. The press in 1924 reported poor agricultural yields and worsening living conditions in rural areas, accompanied by social unrest.

The meteorological year between September 1926 and August 1927 was particularly dry and hot. However, this did not seem to affect the overall agricultural production, which instead had a significant peak with the 1927 harvests. However, in the following year, the weather conditions did not improve enough to compensate for the adversity of the previous year, resulting in a decline in most agricultural products.

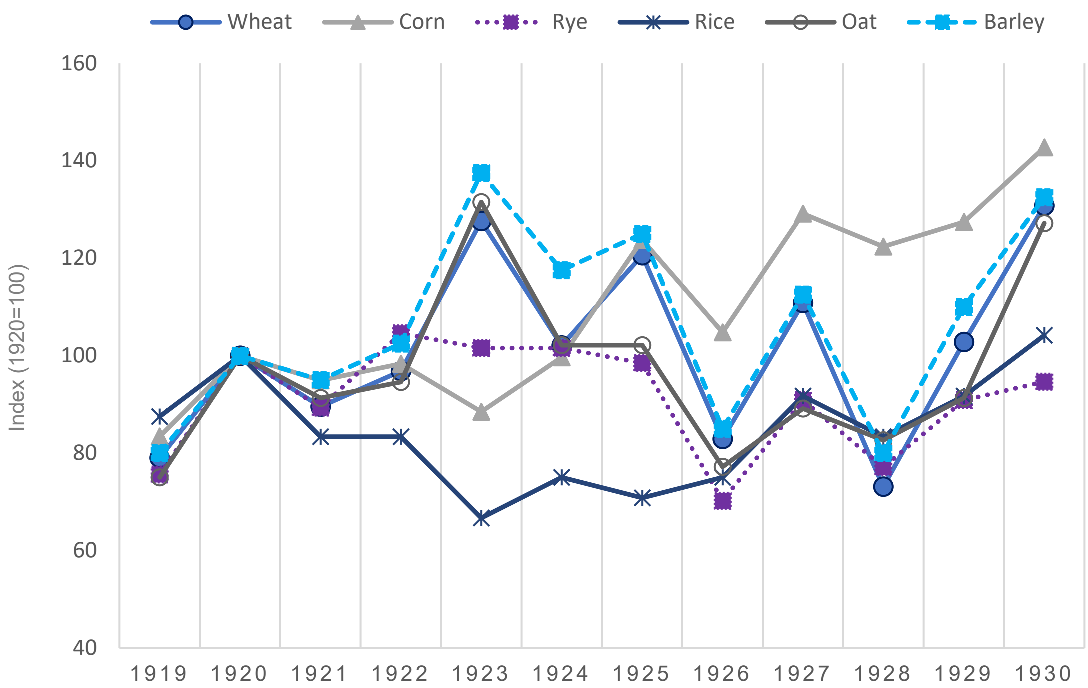
Additionally, the agricultural year of 1927-28 was a poor olive harvest, coinciding with a bad year for wine and most cereals.

Fig. 5 - WINE AND OLIVE OIL CYCLES



Source: *Valério (2001).*

Fig. 6 - AGRICULTURAL HARVESTS



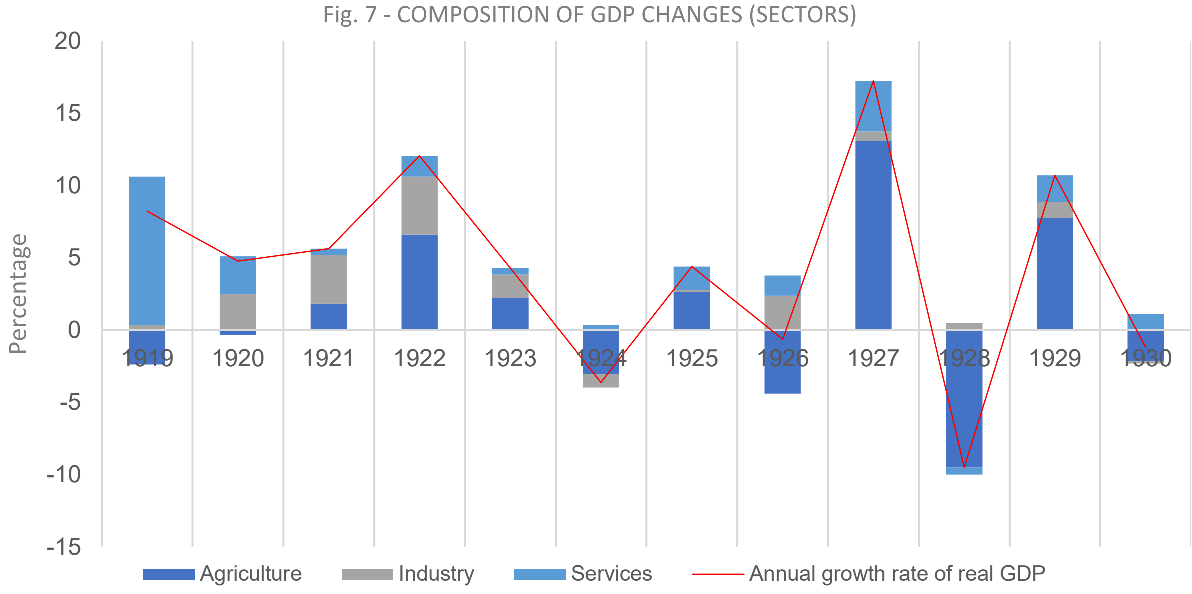
Source: *Valério (2001).*

Another reflection of the poor harvests was the need to import agricultural goods, which usually shows up in the following year's trade balance. The negative contributions of the trade balance in 1925, 1926, 1927, and 1929 (**figure 4**) result, precisely, in part from the effect of the domestic poor agricultural years. This recurring source of external imbalance, during a period of internal adjustment aimed at repaying the war debt to England, was one of the factors that led to the creation of the Wheat Campaign in 1929.

The decomposition of GDP by sectors in **figure 7** confirms that the contraction in 1928 was entirely due to the agricultural sector. This sector was so important in the economy of that time that not even the expansionary behavior of most industrial sectors served to mitigate the impact of the poor harvests. After all, the secondary sector was responsible for only 28% of output and 19% of employment in that decade.

Figure 8 confirms the expansion of various industries from 1925 onwards, which may have been partly due to the fiscal and monetary stabilization. Yet, in the first half of the decade, the main national industries experienced a brief period of contraction, starting between 1922 and 1923 and with greater co-movement in 1924 (the wood and cork industry and the food industry both have a trough in 1925, and the textile industry in 1924). Outside of this period, the food and cork industry, which represented a significant portion of exports, practically had no cycles for the rest of the period in question, in a context where cyclical external shocks were not significant.

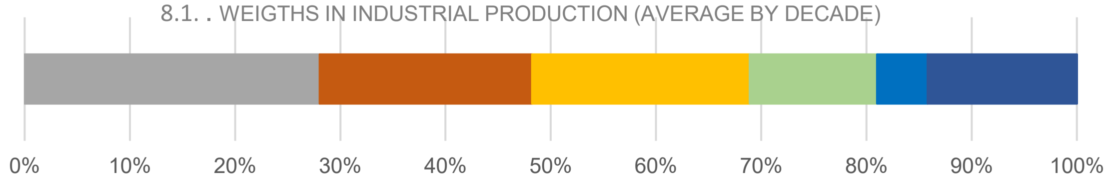
Fig. 7 - COMPOSITION OF GDP CHANGES (SECTORS)



Source: *Lains (2003), com base em Batista et al (1997).*

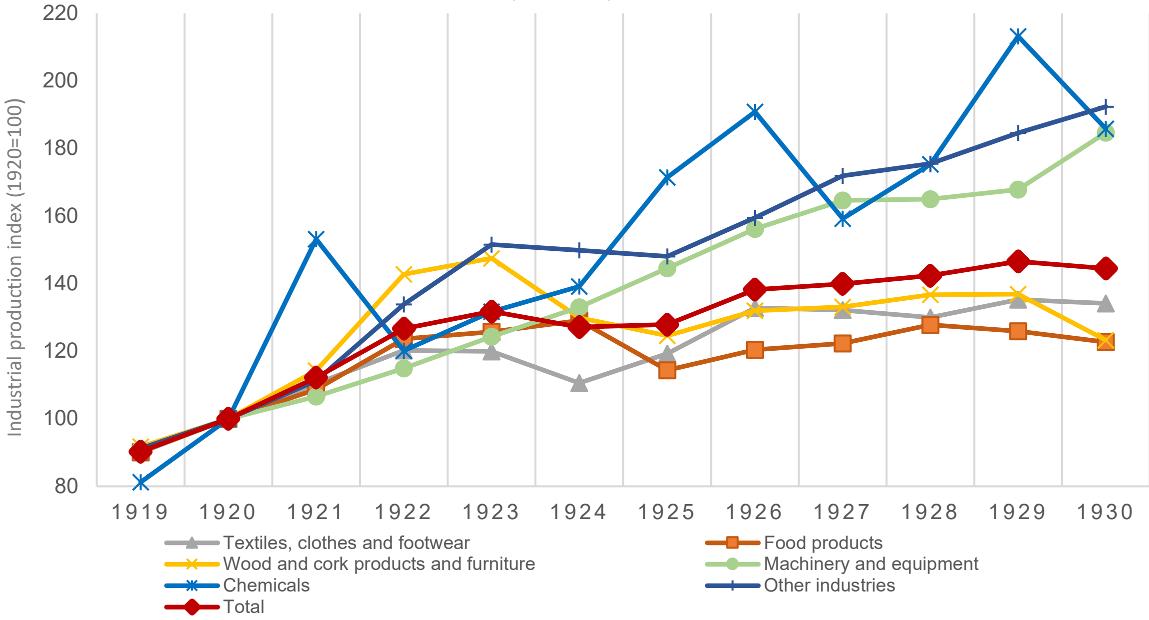
Fig. 8 - MANUFACTURING INDUSTRY

8.1. . WEIGTHS IN INDUSTRIAL PRODUCTION (AVERAGE BY DECADE)



Decomposition of each subsector on total GDP of manufacturing industry, average 1920-1929.

8.2. PRODUCTION INDEX (ANNUAL) OF DIFFERENT SUBSECTORS



Source: *Batista et al (1997).*

3. CALIBRATION OF PEAKS AND TROUGHS

In this period of great volatility and changes in monetary, fiscal, and political regimes, it is especially difficult to precisely date the business cycles.

The Committee identified a recession with a peak in 1927 and a trough in 1928 with higher confidence. On the one hand, it seems clear that there was a recession this year, considering the significant decline in the main agricultural series. On the other hand, both the decline and, especially, the drop in GDP are so large, and the pace of growth is so unusually high in 1927 and 1929, that the Committee suspects there is considerable statistical error in these measurements. Therefore, the magnitude of this recession is likely not as significant as the statistics suggest.

More debatable is whether there was a second recession, with an economic expansion peak in 1923. There is a significant slowdown in growth between 1920 and 1921 in one of the series, and stagnation in both series between 1923 and 1924.

However, the Committee places greater weight on the agricultural series, as they are of higher quality during this period and because this sector is crucial for output and, particularly, for employment and income of the general population. Almost all agricultural series show growth between 1922 and 1923 (with the exceptions of corn and rice), but there is a clear contraction in cereals and wine production in 1924. In turn, industrial production series by subsectors demonstrate a slight stagnation between 1923 and 1924.

Equally difficult is dating the trough. On one hand, agricultural production experienced a second decline in 1924 and 1926. On the other hand, the monetary and fiscal stabilization programs had their main turning point in 1924, and various industries began to grow between 1924 and 1925, albeit at different rates. Therefore, per capita GDP did not fall between 1924 and 1926, although it also experienced minimal growth. The change in the trend of economic growth resulting from the stabilization programs may have taken a few years to become noticeable.

The Committee extensively debated whether these data were sufficient to date a recession in 1924 and 1926, and ultimately decided that the arguments in favor of a brief recession between 1923 and 1924 were (slightly) stronger.

4. CONCLUSION

The period from the end of the Great War to the onset of the Great Depression was a turbulent time in Portuguese economic, social, and political history. Portugal emerged from the conflict with high public deficits and rampant inflation. Export capabilities were limited by the destruction of the merchant navy during the Great War. Dependence on wheat imports, lack of foreign reserves, and the devaluation of the Escudo currency led to social crises with the rising price of bread.

Between 1924 and 1926, there was a shift in fiscal and monetary policy. Although social and political instabilities persisted, public finances were stabilized through increased taxes, and monetary policy managed to support a fixed exchange rate with the British pound and accumulate some foreign reserves for protection. However, the average growth rate of the economy did not increase in those initial years, and it was only in the early years of the following decade that the fruits of this stabilization became decisively evident.

In this atmosphere of stagnation and uncertainty, the two Portuguese business cycles were ultimately associated with the agricultural cycle. Two brief recessions between 1923 and 1924 and between 1927 and 1928 were the result of poor harvests in the main agricultural products. The Portuguese economy still heavily relied on agriculture, although there was significant expansion in the industrial sector at the end of the decade, possibly because of the fiscal and monetary stabilization efforts.

REFERENCES CITED IN THE TEXT

(For a compreehensive list of the sources, see methodological note)

1. Mata, Eugénia e Valério, Nuno (1993). “História Económica de Portugal. Uma Perspectiva Global.” Lisboa: Presença.
2. Silva Lopes, José. “Capítulo 8 - Finanças Públicas”. In: Lains, Pedro e Ferreira da Silva, Álvaro (coord.) (2005). “História Económica de Portugal 1700- 2000”, vol. 3. ICS, Lisboa.