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Crises
in the Portuguese Economy
FROM 1910 TO 2022

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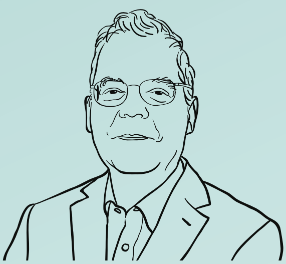

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Crises in the Portuguese Economy: from 1910 to 2022

Portuguese Business Cycle Dating Committee

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Introdution

Economies go through ups and downs. To better understand an economy, a first step is to find out when tough times begin and when they end. This original work identifies the recessions that occurred in Portugal from 1910 to 2021. Establishing the periods in which the Portuguese economy found itself in recession is a fundamental exercise to understand the country today.

Recessions are periods where a country's output and people's income decline. They can happen for many reasons and have varied social, financial, and political consequences. When did they start? How long did they last? And what effects did they have on the daily lives of Portuguese people?

To answer these questions, a team of renowned specialists led by Ricardo Reis dated the Portuguese economy's recessions, creating a reference chronology for crises. This project aims to replicate the work carried out in other economies by entities such as the National Bureau of Economic Research (US) and the Center for Economic and Policy Research (Europe), and apply it to the Portuguese case.

The first part of this project focuses on the period after 1980. This chronology is quarterly and was arrived at after analysing hundreds of statistical series with monthly and quarterly frequencies and after using statistical filters of these series as a starting point for a multidimensional and subjective discussion. The focus was on total income, and dating both the peaks — where economic activity reaches its maximum, marking the end of an expansion — and troughs — where economic activity reaches a minimum, marking the end of a recession. The dating was based on total output after taking out a trend estimated in multiple ways.

Between 1980 and 2021, six recessions were recorded in the national economy. How did the job market behave during these times? How did they impact household consumption? What were the consequences for industrial production? In order to identify the moments when these recessions began and ended, we used Gross Domestic Product as a main reference series, but also used other indicators, such as unemployment, industrial production and the evolution of external trade. We explain each recession, and its main causes and consequences, in detail. The first section of this book presents this work following a chronological sequence. Each chapter can be read independently, allowing the reader to concentrate exclusively on one period at a time.

Dating the period from the establishment of the Republic until 1980 is a different challenge altogether. While there are very good studies of this period in Portuguese economic history, they focus on economic growth trends or major crises rather than on economic cycles. Also, while there are good sources of data on the Portuguese economy of the time, there is inevitably a great deal of noise in the data, which makes it difficult to analyse output changes in the frequency of economic cycles. Thus, although there was an attempt to date the economic cycles of this period (by Mateus, 2013), since noisy GDP estimates were used almost exclusively, the data pointed to several minimums and maximums over these 70 years, with many recessions lasting a single year. This suggests the presence of many false positives due to noise in the data.

With the experience of dating cycles after 1980, and considering the challenges of dating cycles from 1910–79, the Committee dedicated itself to this new dating, trying to apply the same rigour and a comparable approach to both periods. The available data, despite their good quality at lower frequencies, are very noisy at annual or quarterly and monthly frequencies (when they exist), making the task of dating cycles more difficult. At the same time, this dating work requires giving the reader the context of the time, as the structure of the Portuguese economy has changed, and some of the turning points coincide with economic cycles.

Therefore, the objectives, the structure of the chapters, the data used, and the methodology employed, all have relevant differences in relation to the post-1980 reports, which are important to clarify. These are found in the second section of this book, where each chapter is longer and follows a different structure, in order to better describe the main characteristics of the Portuguese economy of the time. The chapters are presented in reverse chronological order, from most recent to oldest, in order to reflect the fact that the further we go back in time, the more uncertain our conclusions are, due to the poorer quality of the data.

Finally, the third and final section presents a few methodological notes and a discussion of the data which support the two previous sections.

Section 1: business cycles post-1980

1. The crisis that took a long time coming: 1983:Q1–1984:Q1

PEAK: 1983:Q1 | TROUGH: 1984:Q1
LENGTH: 4 QUARTERS | AMPLITUDE: 2.7%

Summary

This recession reflected a delayed adjustment of the Portuguese economy to the rise in oil prices, combined with the impact of an IMF-supervised adjustment programme. The programme was the result of an accumulation of deficits in the balance of payments from previous years. A restrictive fiscal policy and a reduction in investment balanced the external accounts, at the cost of a recession caused by a contraction in domestic demand.

The initial shock

The global economy went through an oil crisis in 1979 following a political crisis in Iran, one of the world's leading oil producers at the time. The instability led to a sharp and rapid increase in oil prices, from USD 15.5 to 38.9 per barrel between early 1979 and 1981.

In oil-dependent economies, this increase triggered a knock-on effect in several products and services. Coming from a decade of high inflation, many developed economies increased interest rates to mitigate a further rise in inflation.

The economic slowdown was severe. The ten countries that made up the European Economic Community — now known as the European Union — went into recession in early 1980. Unemployment increased and investment fell, and the same happened in the United States the following year.

Economic stimulus

The Portuguese external context was particularly difficult, and the government implemented policies to counter the impact of the external crisis.

The state budget was used to stimulate the economy and public spending increased. Unlike what was happening in other countries, the Portuguese authorities lowered interest rates to boost consumption and investment.

As a result, inflation increased and the government used administrative price controls in an attempt to halt the rise in prices. At the time, many goods and services had their prices set by the government, including coffee, fuel, bread, and transport. This resulted in persistent losses for many companies, which were facing increasing costs but were not allowed to raise the prices of their products and services.

External imbalances worsen

This context led to a worsening of the balance of payments, as there was more money leaving the country, to pay for imports, than there was coming in as export revenues.

Attempting to halt the external deficit, which reached 12.9% of the country's total annual production in 1982, the government decided to step on the brakes and introduce measures contrary to those put into practice two years previously.

Interest rates were increased to halt consumption and investment, both of which generated imports. Also, the Banco de Portugal's gold reserves were sold to find financial resources so the state could honour its commitments.

The inevitable recession

The economy, which was already shaky, went into recession. The policies of previous years made it possible to delay the impact of the oil crisis, but the recession eventually arrived, as had already happened in most developed economies.

Unable to keep financing internal deficits, the government, formed by the PS and PSD parties after the election in April 1983, sought the help and intervention of the International Monetary Fund (IMF), for the second time since the revolution in 1974. The programme was in place between October 1983 and February 1985, and its main goals were to help the country balance its external accounts and improve the public accounts to allow for future economic growth.

Several measures came with the IMF funding.

The escudo — Portugal's currency at the time — was devalued by 12% with the goal of making exports more competitive and cooling down imports. When an economy's currency is devalued, it becomes easier for other countries to buy its goods and services, because prices become cheaper in their own currencies. The opposite is true for imports: goods and services become more expensive for countries whose currencies have been devalued.

The government also placed limits on bank loans to cool down credit. To avoid a steeper fall in the public accounts and the state deficit, investment by public companies was reduced and tax burdens were increased.

The main indicators

The slump in the economy, measured using real GDP per capita, was 3% between the highest and lowest points in the business cycle. The peak for this business cycle was reached in the first quarter of 1983. After that, the fall continued until the third quarter of the following year, at which time it reached its trough.

Unemployment started to increase even before the recession began and continued to rise after it.

The largest adjustments in external debt occurred in investment. The steep fall of this indicator was one of the striking features of this recession.

Unemployment soars and household consumption dwindles

The effects of this recession cannot be separated from the impact of the IMF programme, which was partially applied during the same period. Industrial production in the country fell, unemployment increased and private consumption dwindled.

Domestic savings, which were showing signs of recovery, continued to increase, and investment fell sharply.

The recession was severe but short, and the recovery in the following years was robust. Due to the devaluation of the escudo, there was a rapid balancing of accounts with other countries, which was reached in 1985. But this recession left deep social scars, mainly due to the increase in unemployment and the real contraction in people's income, caused by the fall in the currency.

Report

Environment

The Portuguese economy experienced a brief period of growth after the macroeconomic stabilisation implemented with the first IMF technical and financial assistance programme in 1978–1979. Real GDP per capita grew 6.1% between 1980:Q1 and 1983:Q1. In the following four recession quarters, real GDP per capita fell 2.7% relative to the peak.

On the external side, to some extent and with a lag, this recession reflected the 1979 oil shock. At that time, many developed economies adopted restrictive monetary policies to contain inflation. The US was in recession between 1981:Q3 and 1982:Q4, while the 11 original Eurozone members (and Greece) experienced a particularly long recession between 1980:Q1 and 1982:Q3, not so much marked by a decrease in output, which was stagnant, but rather by a reduction in employment and investment. Spain, which was hit earlier by the shocks, experienced a period of industrial transformation that, despite political instability, resulted in expansion.

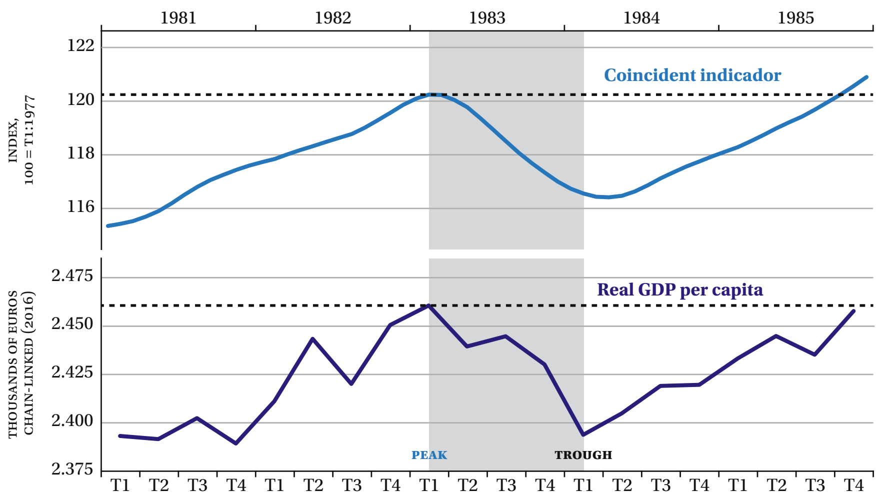
Internally, the government implemented expansionary fiscal and monetary policies starting from 1980. On the one hand, this led to a rise in inflation. Price controls were used to contain inflationary trends, but they affected the financial health of many firms. On the other hand, expansionary policies, together with the availability of external financing, led to external imbalances, with the balance of payments deficit reaching 13% of GDP in 1982 (figure 5).

A restrictive macroeconomic policy package was implemented in 1982, promoting interest rate hikes and the upfront sale of gold reserves. But it would be the «Central Block» government, formed after the parliamentary elections of April 1983, which would resort to an IMF programme between October 1983 and February 1985. Among its various measures were the devaluation of the escudo by 12% in June 1983, the reduction of investment by public companies, the imposition of credit limits and the increase in the tax burden. As a whole, these measures generated social upheaval, with several strikes and demonstrations taking place.

Calibration of peaks and troughs

As illustrated in figure 1, real GDP per capita reached a local maximum in 1983:Q1. The coincident indicator, which peaked in March, has an even more pronounced inflection than real GDP per capita.

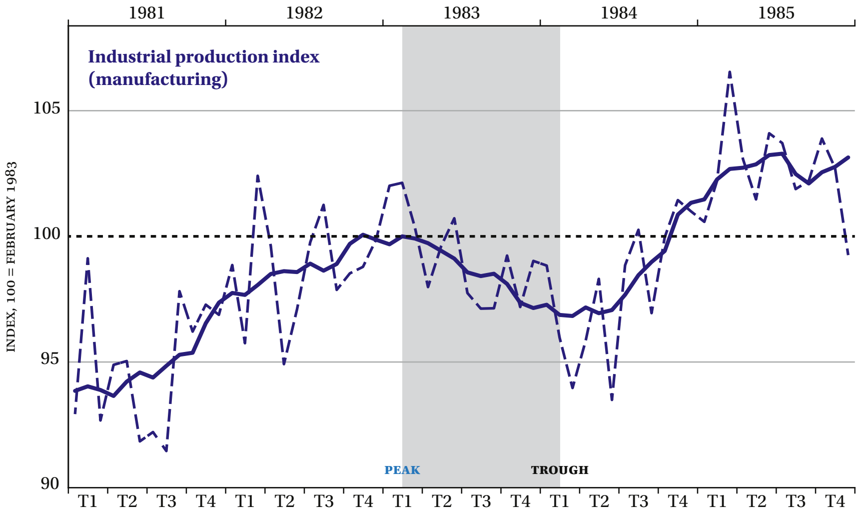
Figure 1. Coincident indicator (monthly) and real GDP per capita (quarterly)



Source: Banco de Portugal, Committee.
Note: the horizontal dashed lines represent the value of the indicator at the peak (1983:T1).

Industrial production (figure 2) also registered a clear peak in 1983:Q1, with a 4% drop until 1984:Q1.

Figure 2. Industrial production index (monthly)

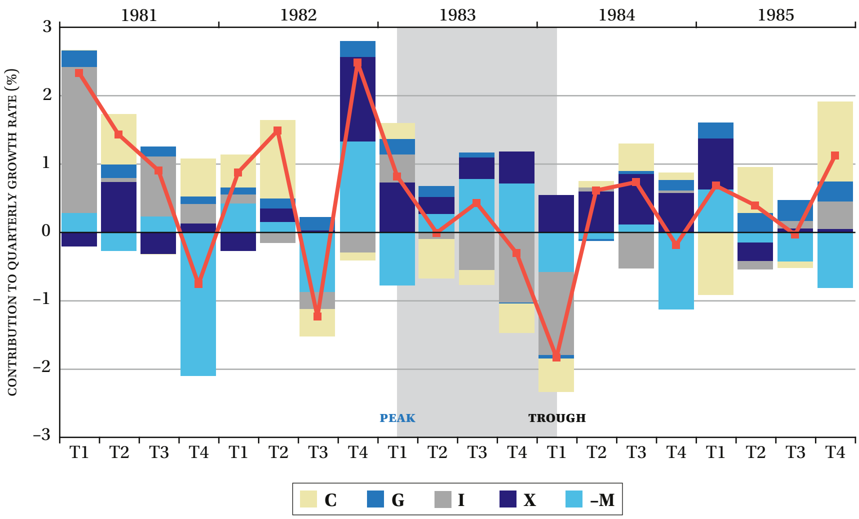


Source: INE, Eurostat.
Note: seasonally-adjusted (dashed line) and smoothed (solid line) series, by using a centred 9-month moving average. The latter is indexed to 100 in the month before the peak, for interpretation.

In terms of macroeconomic aggregates (figure 3), the external adjustment was particularly evident in 1983:Q2–1983:Q4, with a reduction in imports and an increase in exports. The combination of the external context, credit constraints, and cuts in public investment contributed towards sharp declines in private investment and private consumption.

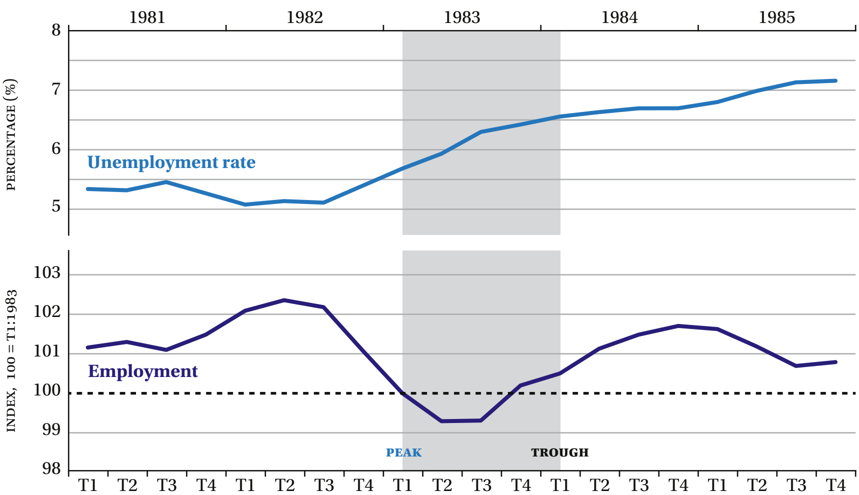
The unemployment rate was rising and employment had been falling since 1982:Q2-Q3 (figure 4), one year before the peak considered by the Committee, which follows an output approach. It should be noted that employment statistics for this period contain some noise.

Figure 3. Decomposition of the quarter-on-quarter change in real GDP — Expenditure approach (quarterly)



Source: Banco de Portugal.
Note: positive contributions from imports (M) reflect the negative rates of change of this aggregate.

Figure 4. Labour market — Employment index and unemployment rate (quarterly)



Source: Banco de Portugal, Committee.

The calibration of the trough in 1984:Q1 is corroborated by real GDP per capita, the coincident indicator, and the industrial production indicator. The industrial sector recovered the level of the previous peak in less than a year, grounded in a rapid export-based adjustment driven by the currency devaluation. Finally, employment once again lagged, with a local minimum in 1983:Q2.

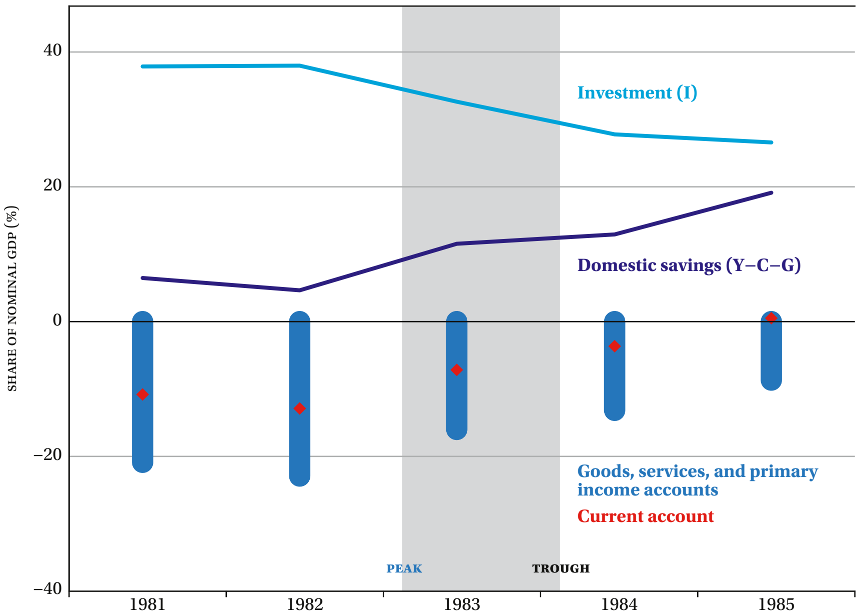
Indicators and additional factors

The data series considered by the Committee to formulate its decisions start in 1980:Q1. Although some data pointed to a small recession lasting two or three quarters in 1980 — associated with the previous year's oil shock — the Committee considered that there was no reason to declare a recession during this time. On the one hand, its reduced amplitude, with a close to zero change in real GDP per capita, and measurement errors at the beginning of the sample, make it impossible to separate the signal from the noise. On the other hand, Portugal was then a relatively closed economy and, therefore, less affected by external shocks. At the same time, the pursuit of expansionary policies allowed the impact of the oil shock to be postponed until 1983, when it was amplified by the adjustment programme.

Figure 5 shows the evolution of the balance of payments, the current account, and the breakdown of the latter into domestic savings and investment. The deterioration of both balances between 1980 and 1982 is visible, mainly due to the drop in domestic savings, consistent with the expansionary policies of the time. This external indebtedness made it possible to sustain high levels of consumption (figure 3), despite adverse international conditions.

In 1983, with the adjustment programme, the sudden contraction of the external deficit is visible. The devaluation of the currency made imports more expensive and exports cheaper, producing a rapid correction in the balance of goods and services.

Figure 5. Balance of payments, internal savings, and investment (annual)



Source: Banco de Portugal.

Domestic savings soon recovered from 1982 onwards, since, at the same time as output fell, consumption dropped even more in comparison (figure 3). The largest share of external debt adjustment occurred on the side of investment, which suffered a sharp drop that particularly marked this recession. This behaviour is typical of recessions linked to external adjustments.

Conclusion

This year-long recession was relatively severe, reaching a 3% amplitude in real GDP per capita. In the context of an external adjustment programme, the currency was devalued, public investment was cut, credit was limited, and prices were frozen, reducing private investment. The external accounts were rebalanced, contracting internal demand. Real GDP per capita would recover to reach its peak level in 1986:Q2, a little over 2 years after the trough.

2. The crisis that came from abroad: 1992:Q2–1993:Q3

PEAK: 1992:Q2 | TROUGH: 1993:Q3
LENGTH: 5 QUARTERS | AMPLITUDE: 1.1%

Resumo

The first recession after Portugal joined the European Economic Community (EEC) was influenced by the international context, marked by the Gulf War, the German reunification, and the instability in the European Exchange Rate Mechanism (ERM). The external shock to the trade balance precipitated the recession, which was aggravated by restrictive fiscal and monetary policies that contracted investment during the second phase of the recession.

Environment

Since joining the European Economic Community in 1986, Portugal had experienced a period of strong and prolonged economic growth.

When it joined the single market, the economy opened, some sectors began to modernise, a reprivatisation programme was launched, more European funds flowed in, and the country invested in infrastructure.

Between 1987 and 1991, Aníbal Cavaco Silva led the first government to complete a full four-year term in office, creating the necessary conditions for economic policy and budget stability, thus contributing to an environment of economic growth.

This trend would be interrupted by the recession of 1992–1993. The dark clouds threatening the economy moved in from abroad: the first Gulf War broke out in 1990 when Kuwait was invaded by Iraq, leading to an armed intervention led by the US.

The conflict led to an increase in oil prices and the United States fell into recession between 1990 and 1991.

The cost of German reunification

At the same time, Europe's Eastern bloc was collapsing. The Berlin Wall came down in November 1989, paving the way for the reunification of the two Germanies, with the incorporation of the former German Democratic Republic into the Federal Republic of Germany.

The political process was swift, but there were economic costs. The considerable increase in German public spending, associated with building infrastructure in the east of the country, put pressure on inflation.

To control it, the German central bank proceeded to increase interest rates. Because other European currencies had their exchange rates pegged to the German mark, interest rates in those countries also increased, contributing to recessions in Europe's main economies. With its main partners in recession — particularly Spain and Germany, the destination of many Portuguese exports — the conditions were set for Portugal to go into recession as well.

Domestic contribution

Although this crisis arose mainly from an external source, internal policies played their part. The strong growth in the second half of the

1980s, as well as the devaluation of the currency, generated inflationary pressure in Portugal. To fight these, a restrictive monetary policy was introduced, increasing interest rates and lifting capital controls. The country was getting ready for the Economic and Monetary Union, which would be enshrined in the Treaty of Maastricht, signed in February 1992.

At the same time, a restrictive fiscal policy cut state spending and investment in order to lower the government deficit.

The main indicators

Economic growth was unable to withstand the effects of the external environment and the internal measures, giving rise to a recession. This recession began in the second quarter of 1992 and was followed by a continuous fall until the third quarter of the following year, when it reached its trough. At that time, the economy fell 1.1%.

The unemployment rate began to climb even before the highest point of this business cycle was reached, in the first quarter of 1992. This trend continued beyond the recession period.

The economic sentiment indicator reversed the trend before the recession began and fell sharply between the second quarter of 1992 and the third quarter of 1993.

Less consumption and a fall in investment

The effects of this recession were felt in industrial production, reinforcing and extending a fall that was a long time coming, since the beginning of the decade. In early 1992, unemployment stood at less than 4%, increasing to more than 6% in 1994. In the second quarter of 1993, there was a fall in household consumption, which had already slowed down compared to the pace registered before the recession.

Exports also suffered during a business cycle phase where the main external markets for Portuguese products and services were also in recession and consumption volume was therefore lower.

In the same way, the international recession led to a fall in investment, which was particularly evident in 1993.

Report

Environment

After joining the EEC in 1986, the Portuguese economy expanded continuously, benefiting from the economy's opening to the outside world, significant gains in the terms of trade, and relative political stability. This expansion ended with a peak in economic activity in 1992:Q2. In the five quarters of the recession that followed, real GDP per capita fell 1.1% from its peak.

On the external front, the Gulf War, between 1990:Q3 and 1991:Q1, led to an increase in oil prices. The US was in recession during this same period. In Europe, the impact of German reunification and contractionary monetary policy led to tensions in the ERM and to another recessionary impulse. Portugal's main trading partners, with Spain being at the forefront, were in recession from 1992:Q1 to 1993:Q3, as was the Eurozone. Finally, the end of the Common Agricultural Policy transition phase led to a significant drop in the real prices of agricultural products.

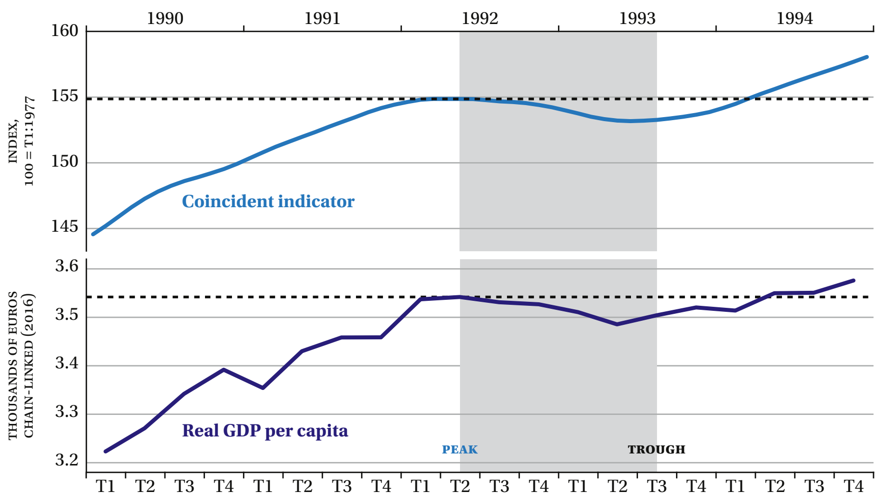
Internally, the expansion phase that characterised the second half of the 1980s generated inflationary pressures, as evidenced by an inflation rate of 13.6% in 1990, 7 p.p. above the community's average. An anti-inflationary programme was implemented between 1990 and 1992, in which a restrictive monetary policy with high real interest rates was complemented with capital controls that were only removed in December 1992.

In terms of exchange rate policy, the crawling-peg regime ended and the escudo entered the ERM in April 1992. Thus, the escudo went through the ERM's most troubled phase, seeing its central parity devalued twice — in November 1992 and March 1993. Finally, fiscal policy was restrictive, reducing the public deficit from 6.5% to 3.3% of GDP between 1991 and 1992.

Calibration of peaks and troughs

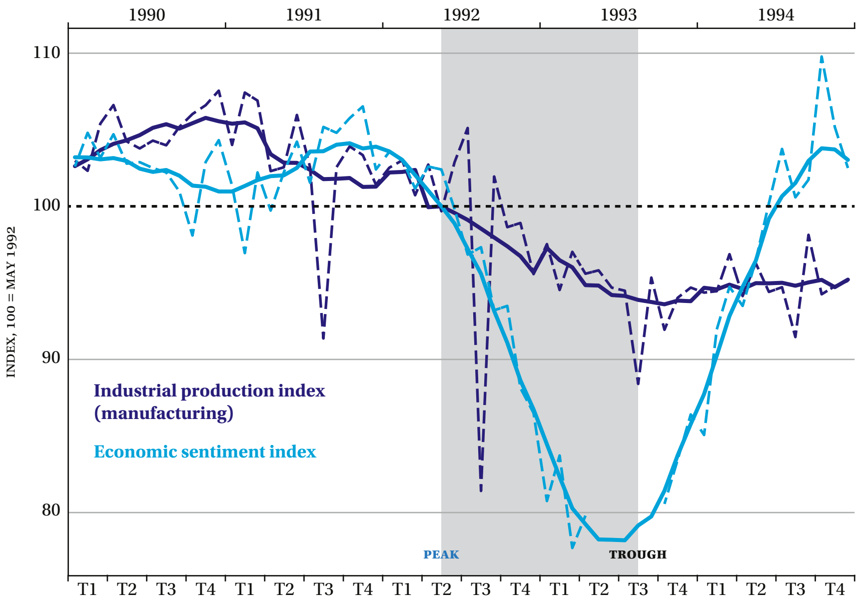
Real GDP per capita peaked in 1992:Q2, as illustrated in figure 1. The coincident indicator peaked between Q1 and Q2 of that same year. However, the economic sentiment indicator (figure 2) fell sharply between 1992:Q2 and 1993:Q3. Finally, the industrial production indicator suffered one of its biggest historical reductions in a single quarter, between Q3 and Q4 of 1992. Together, these indicators point to a peak in 1992:Q2, a quarter after the peak of activity of major European partners.

Figure 1. Coincident indicator (monthly) and real GDP per capita (quarterly)



Source: Banco de Portugal, Committee.
Note: the horizontal dashed lines represent the value of the indicators at the peak defined by the Committee. (1992:Q2).

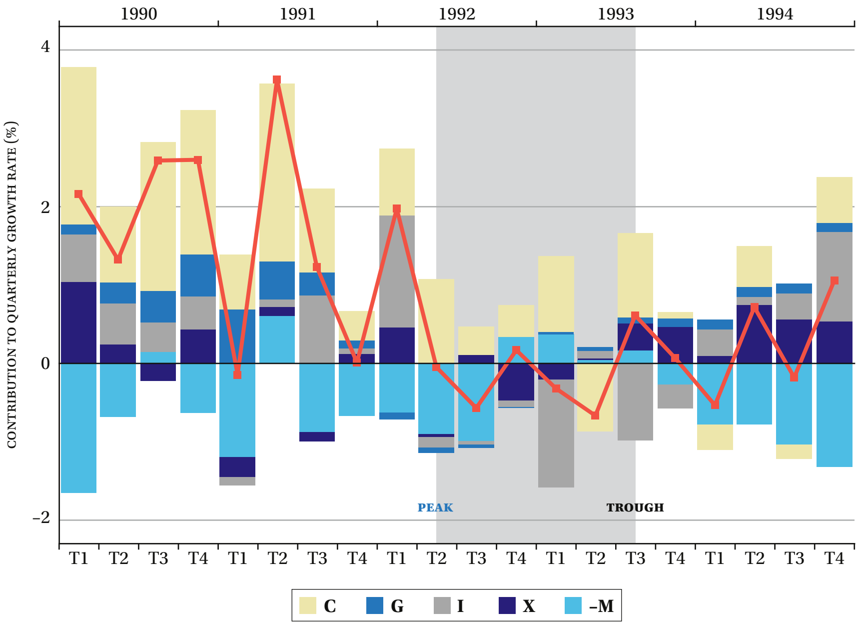
Figure 2. Industrial production and economic sentiment indices (monthly)



Source: Statistics Portugal, Eurostat.
Note: seasonally-adjusted (dashed line) and smoothed (solid line) series, by using a centred 9-month moving average. Both are indexed to 100 in the month before the peak quarter, for interpretation.

In terms of macroeconomic aggregates (figure 3), the recession was felt with greater intensity in the net exports (X-M). The volatility of the trade balance, typical of business cycles, coincided with instability in the ERM, especially from 1992:Q2.

Figure 3. Decomposition of the quarter-on-quarter change in real GDP — Expenditure approach (quarterly)

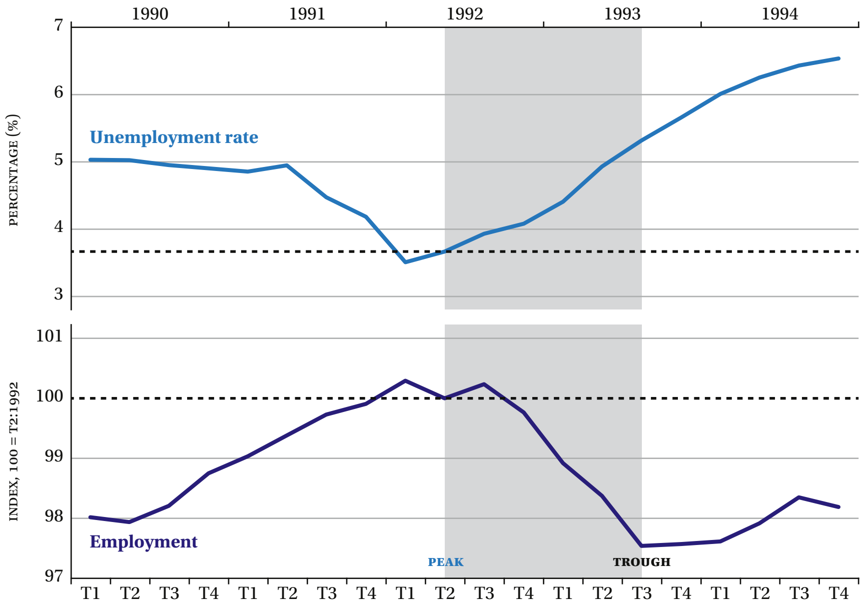


Source: Banco de Portugal, Committee.
Note: positive contributions from imports (M) reflect negative rates of change of this aggregate.

Investment also registered a large drop at the beginning of the recession, which then deepened in 1993:Q1, contributing to a significant part of the decline in output. In line with the drop in economic sentiment, investment fell in the transportation, construction, and real estate sectors. Finally, in the final phase of the recession, there was a sharp drop in public consumption.

The unemployment rate (figure 4) started to rise a quarter before the peak, as early as 1992:Q1. The reversal in the labour market was most noticeable in employment, which had been in continuous growth for several years, reversing this trend between 1992:Q1 and 1992:Q3.

Figure 4. Labour market — Employment index and unemployment rate (quarterly)



Source: Banco de Portugal, Committee.

Calibrating the trough, real GDP per capita, the economic sentiment indicator, and employment reached their local minima in 1993:Q2. Consumption also began to recover in 1993:Q2, although investment continued to decline for another year.

Looking at the coincident indicator instead, after smoothing out the surrounding fluctuations, the trough date is one quarter later, in 1993:Q3. Similarly, the industrial production index has a local minimum in 1993:Q3, after which it began to slowly recover, in line with investment.

The unemployment rate presented an atypical behaviour in relation to other cyclical indicators. The end of the recession led to a slight inflection in its growth, but the unemployment rate continued to rise for several months after the trough of the business cycle.

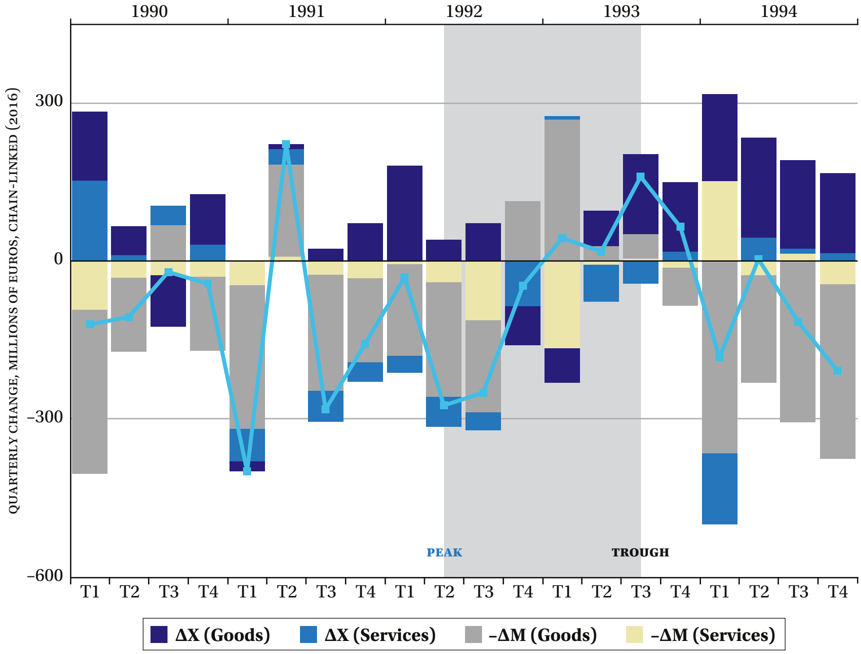
Indicators and additional factors

Between the fall of the Berlin Wall in November 1989 and July 1992, the German central bank raised interest rates from 5% to 8.75%, with 1.25 p.p. being concentrated in the final eight months. This monetary policy was a response to the rise in German inflation caused by public spending associated with the country's reunification.

To maintain the parity of the currencies that were part of the ERM centred around the German mark, the remaining European central banks had to equally raise their interest rates. Without benefiting from budgetary expansion, but with a restrictive monetary policy, these countries entered into a recession. Demand for Portuguese exports declined, causing economic activity to contract. This recession was thus marked by the external shock that led to a drop in exports and investment.

The external origin of the shock is visible in the trade balance's decomposition (figure 5). To maintain parity with the mark, the escudo was relatively over-valued, so foreign goods were relatively cheap and domestic goods relatively expensive. Exports declined more sharply than imports, contracting national output through the trade balance.

Figure 5. Trade balance composition (quarterly)



Source: Banco de Portugal, Committee.

In turn, the Banco de Portugal also had to monitor the rise in interest rates by the German central bank. Furthermore, Portuguese fiscal policy was moving in the opposite direction than that of German policy due to the need for deficit reduction in order to start the convergence process dictated by the Maastricht Treaty. Both fiscal and monetary policies were therefore moving in a restrictive direction. This deepened and prolonged the recession, with investment contracting sharply in the second phase of the recession.

With the devaluation of the escudo between 1993 and 1994, in the context of the ERM realignments, the reversal in both exports and imports was notorious, as can be seen in figure 5. In the second half of the recession, it was rather investment and public consumption that postponed the trough (figure 3).

In recessions caused by domestic demand, the trade balance tends to be countercyclical. In this recession, the trade balance proved to be procyclical, a clear sign of its external source.

Conclusion

With a relatively short duration (5 quarters) and a relatively slight reduction in real GDP per capita (amplitude of 1.1%), this recession was mild compared to others, but remarkable, because it broke a long phase of expansion in the Portuguese economy. It was associated with the external context, with a contraction in net exports and a drop in investment following the rise in oil prices and the recession in the Eurozone, related to instability in the ERM. In response to the external context, domestic macroeconomic policies played an important contractionary role, with restrictive monetary and exchange rate policies, and a sharp reduction in the public deficit. A sharp drop in economic sentiment accompanied these policies and the international context. Only in 1994:Q2 would the level of real GDP per capita recover to the peak level of 1992:Q2.

3. The agony after the ecstasy: 2002:Q1–2003:Q2

PEAK: 2002:Q1 | TROUGH: 2003:Q2
LENGTH: 5 QUARTERS | AMPLITUDE: 2.9%

Summary

Marked by the internal context, this recession reflected a decline in economic sentiment, accompanied by a significant drop in private investment. The decline in public investment was also considerable, in the context of an adjustment made to the public deficit, after exceeding the limits of the Stability and Growth Pact in 2001. The recession marked a turning point in the structure of the Portuguese economy with regards to trend growth, the unemployment rate, and the use of macroeconomic policies to stabilise the cycle.

Environment

In the 1990s, the country was on its way to joining the single currency, lowering the public deficit, public debt, inflation and interest rates. Portugal achieved its goal and was one of the frontrunners in adopting the euro in early 1999. But this brought some imbalances. The strong and consistent reduction in interest rates, motivated by the growing credibility derived from handing its monetary and exchange rate policy over to the European Central Bank, led to increased indebtedness among companies and private individuals.

Cheaper money and competition between banks in granting loans increased household indebtedness for the purchase of homes and cars and credit to firms that were often not productive. For the state, the budget leeway generated by the reduction in the government debt burden was largely used to increase current public spending.

From the «quagmire» to the country that was «picked clean»

After joining the single currency, the country was subject to new budget rules that limited the budget deficit to 3% of GDP, as required by the Stability and Growth Pact defined by the European institutions. Soon, the government accounts became incompatible with this goal. Following a defeat in the local elections in December 2001, Prime Minister António Guterres resigned due to the lack of political conditions to prevent the country from falling into a «quagmire».

After the early general election, the new government led by Durão Barroso further emphasised the gloomy situation, saying that he had inherited a country that was «picked clean».

Government instability, the pessimistic political discourse and the perspective of public spending cuts and tax increases helped disseminate a negative outlook on economic developments among economic agents.

Economic sentiment fell, consumption and investment contracted, and the recession was inevitable.

A Portuguese crisis

This recession was caused almost exclusively by the domestic situation. Unlike previous recessions, this crisis was not shared with Portugal's main European trade partners. Although the US experienced a brief recession in 2001, there was no decline in the Gross Domestic Product in Europe.

In 2002, the new government deemed it necessary to implement a restrictive fiscal policy in order to get the budget deficit back down to under 3%, after breaking the European limit the previous year.

To do this, public investment was cut and the increase in public spending was halted. Private consumption also dwindled following the erosion of confidence in the economy, thus aggravating its decline.

It was the first recession in the Euro era, where monetary policy was no longer in the hands of national authorities.

The main indicators

The economic slump between 2002 and 2003 was relatively deep, with a maximum difference of 2.9% in real GDP per capita. The peak for this business cycle was reached in the first quarter of 2002.

The trough came over a year later, in the second quarter of 2003.

The labour market underwent profound changes. In the 20 years prior, the unemployment rate was only slightly countercyclical, but it did not fall after this recession.

The economic sentiment indicator fell sharply during this recession, reinforcing a trend that had begun two years before.

The beginning of the lost decades

This recession marked a turning point in the Portuguese economy which took on structural contours. Since 2001, the average growth rate has been modest for extended periods of time. So much so, that the first two decades of the 21st century are considered to be lost decades.

The stagnation in productivity and the misallocation of capital are some of the main causes for this prolonged anaemia.

It was also the first recession where the macroeconomic policy tools that Portugal had used in the two previous decades were no longer available.

The country could no longer lower interest rates, which were now in the hands of the European Central Bank. The inability to create a cushion for public deficit below the 3% limit during the years of economic expansion made it impossible to reduce taxes or increase public spending during the years of economic recession. Portugal therefore found itself unable to use fiscal policy to stimulate the economy.

Finally, one of the most immediate effects of this recession was the rapid increase in unemployment, which went from values under 4.5%, in late 2001, to over 7%, in 2014. After the recession had ended, the unemployment rate did not fall, remaining high during the following years, which was unusual in the Portuguese economy in the prior two decades.

Report

Environment

The entry into the Eurozone, in January 1999, brought about an expansion of investment and consumption. In the following years, access to credit broadened with a permanent decline in interest rates and an expansionary fiscal policy. This period of growth ended with a peak of economic activity in 2002:Q1, at a time when the deferral of structural adjustments that would allow for compliance with the Stability and Growth Pact (SGP) deficit limits could no longer persist. In the following 5 quarters, real GDP per capita fell by 2.9%.

At the internal level, the immediate shock that triggered the recession was the unexpected fall of the government, in December 2001, as the prime minister resigned following poor results in local elections, bringing political uncertainty. The new government took office in April 2002 and had to deal with the violation of the limit set by the SGP for the budget deficit (3% of GDP) in 2001. It responded with a restrictive fiscal policy that during its first phase was marked by a reduction of public investment, which fell 55% (chain-linked) between 2002:Q3 and Q4. From 2003 onward, there was an effort to contain the wage bill and freeze the progression of careers in the public sector.

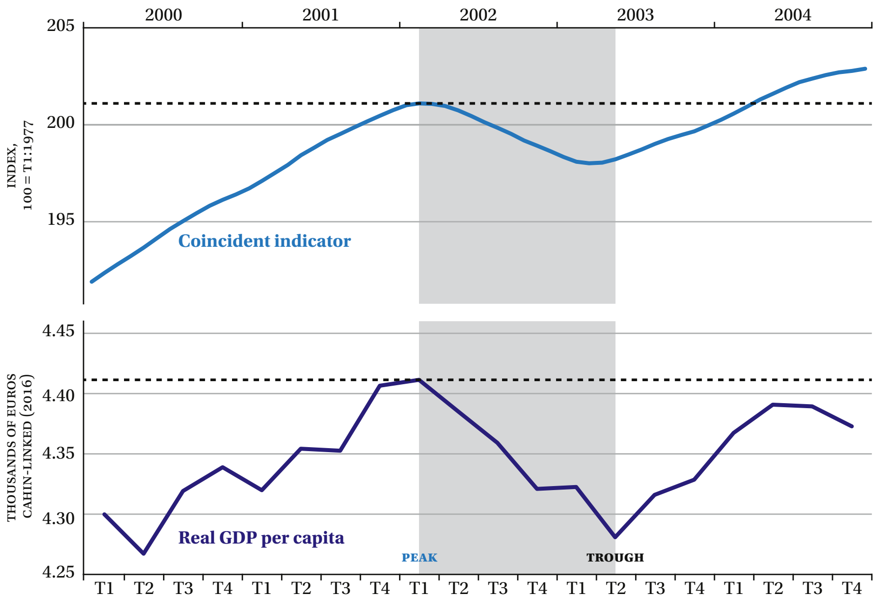
On the external level, the US experienced the brief *dot-com* recession between March and November 2001. No corresponding recession was observed in either the Eurozone or in Spain. The OECD business cycle indicators place France and Germany in deceleration from the end of 2000 onwards. In the German case, the period between 2000 and 2005 was marked by stagnation, which despite having some impact on Portuguese exports, was in itself insufficient to explain a recession in Portugal.

Monetary policy, now defined by the ECB, was accommodating, with benchmark rates continuously declining between October 2000 and June 2003.

Calibration of peaks and troughs

Real GDP per capita reached a peak in 2002:Q1 (figure 1). The peak in the coincident indicator was more gradual and occurred between 2001:Q4 and 2002:Q1.

Figure 1. Coincident indicator (monthly) and real GDP per capita (quarterly)

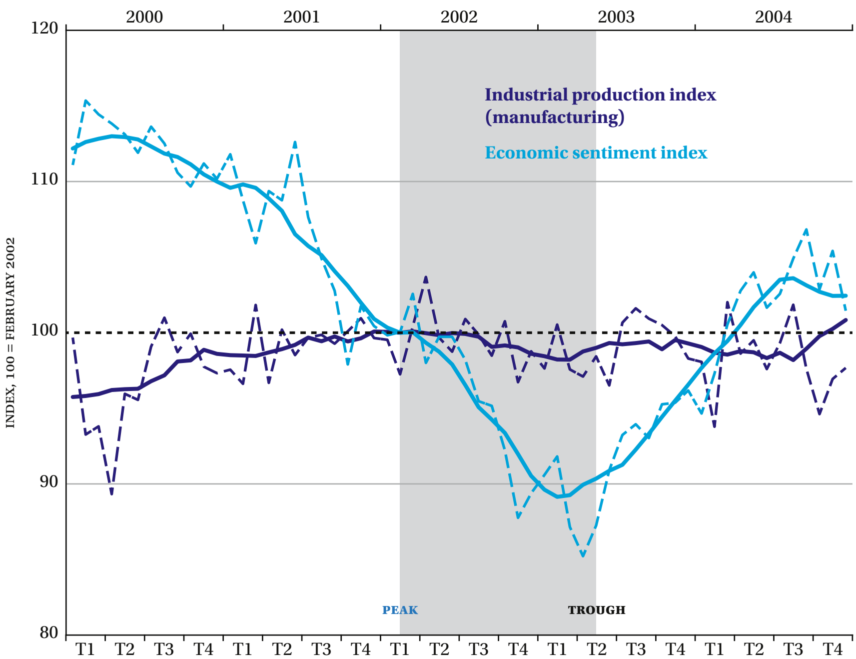


Source: Banco de Portugal, Committee

Note: the horizontal dashed lines represent the value of the indicators at the peak defined by the Committee. (2002:Q1).

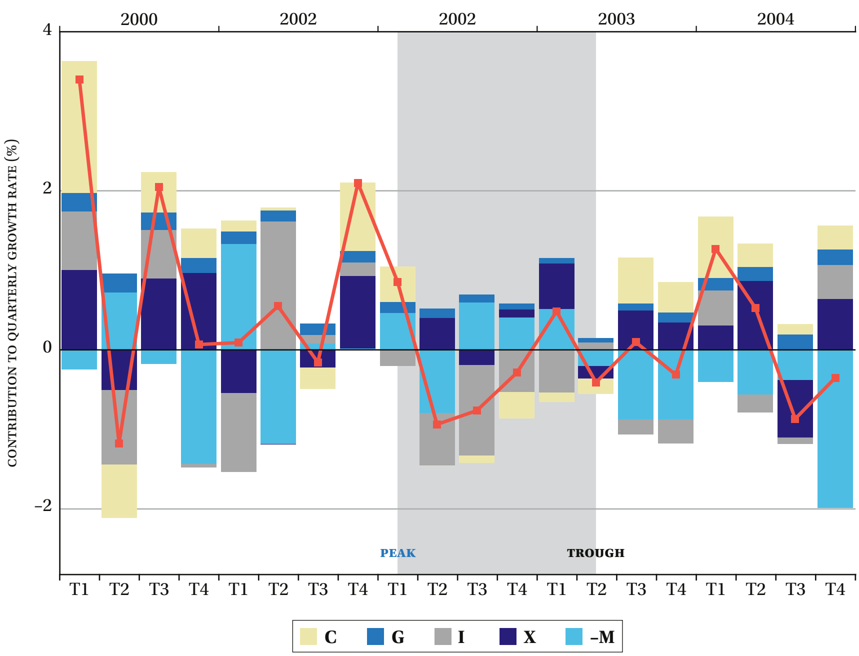
Unlike other recessions, the industrial production indicator did not show a clear contraction. There was a small local maximum in April 2002, which coincided with a slight external demand slowing (figures 2 and 3), but this contributed little to the recession.

Figure 2. Industrial production and economic sentiment indices (monthly)



Source: Statistics Portugal, Eurostat
Note: seasonally-adjusted (dashed line) and smoothed (solid line) series, by using a centred 9-month moving average. Both are indexed to 100 in the month before the peak quarter, for interpretation.

Figure 3. Decomposition of the quarter-on-quarter change in real GDP — expenditure approach (quarterly)



Source: Banco de Portugal, Committee
Note: Positive contributions from imports (M) reflect the negative rates of change of this aggregate.

While examining the macroeconomic aggregates, the recession initially manifested itself in investment (I), both public and private (figure 3). The largest decline in investment occurred between Q2 and Q3 of 2002. During this period, there was also a sharp reduction in public investment. In the following quarters, there was a significant fall in investment in the transportation sector.

Private consumption (C) also played a significant role in the recession, especially in durable goods. In the final phase of the recession, exports and industrial production fell, in line with the decrease in demand in both Germany and France, slightly contributing to extending the recession.

To calibrate the trough, note that both real GDP per capita and the economic sentiment indicator reached their local minima in 2003:Q2. Similarly, the coincident indicator, after smoothing out fluctuations, recorded a trough in 2003:Q2.

The jump in consumption in 2003:Q3 marked the end of the recession, but investment only started rising continuously from 2004:Q1. Finally, the industrial production index reached a local minimum in June 2003, although this indicator appears to be less relevant in this crisis.

Indicators and additional factors

Between the speech given by the outgoing prime minister, António Guterres, in December 2001, where he stated that Portugal was falling into a «political quagmire», and the speech given by the new prime minister, Durão Barroso, in April 2002, describing the country as being «stripped bare», the economic sentiment index experienced a sharp decline. This recession was partially caused by a decrease in confidence, which impacted private investment. The economic sentiment indicator (figure 2) showed a significant decrease between 2002:Q1 and 2003:Q1.

Another major factor behind this recession was the contraction of public investment within the context of the policies imposed by the SGP, due to the difficulty in controlling public finances during previous years. Figure 3 illustrates the second driver of this recession.

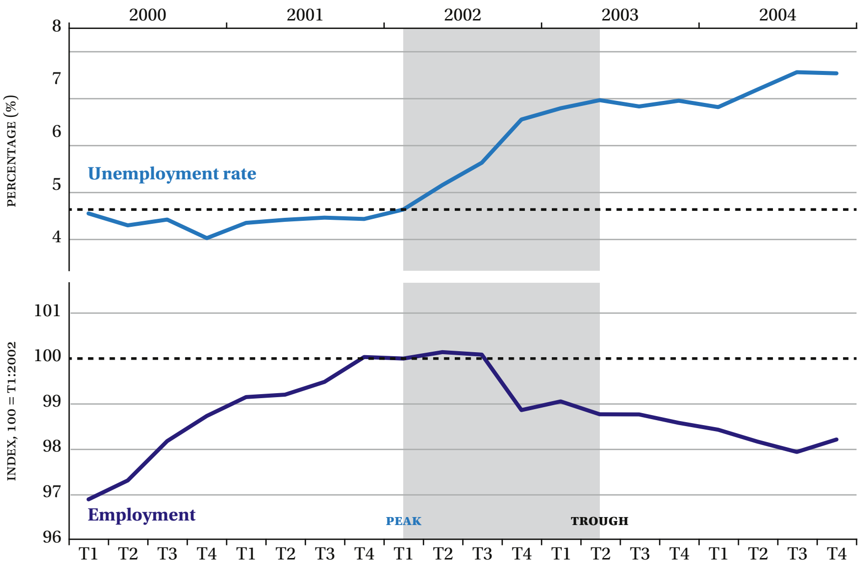
Less visible at the time, but noticeable in hindsight, was the fact that this recession marked a structural change in the Portuguese economy, both in economic growth and in economic cycles thereafter. This change has three different dimensions.

Firstly, as shown in figure 5, this recession marked a reduction in the decline of the trend of real GDP per capita. The growth rate of the Portuguese economy fell close to zero for almost the entirety of the two decades that followed. This economic stagnation was predicted by few and accompanied by stagnation in productivity growth.

Secondly, in terms of economic policy, this recession is the first in the Eurozone context where macroeconomic policies that had been employed in the two preceding decades were no longer available. Monetary policy was now decided for the Eurozone as a whole, so national recessions caused by local confidence factors were no longer countered with interest rate reductions or currency devaluations. Moreover, fiscal policy became subject to budgetary limits, and the difficulty in creating a cushion to use in times of crisis frequently resulted in pro-cyclical fiscal policy, supported by cuts in public investment. As a result, these two main macroeconomic tools ceased to be countercyclical in response to a national (rather than European) recession.

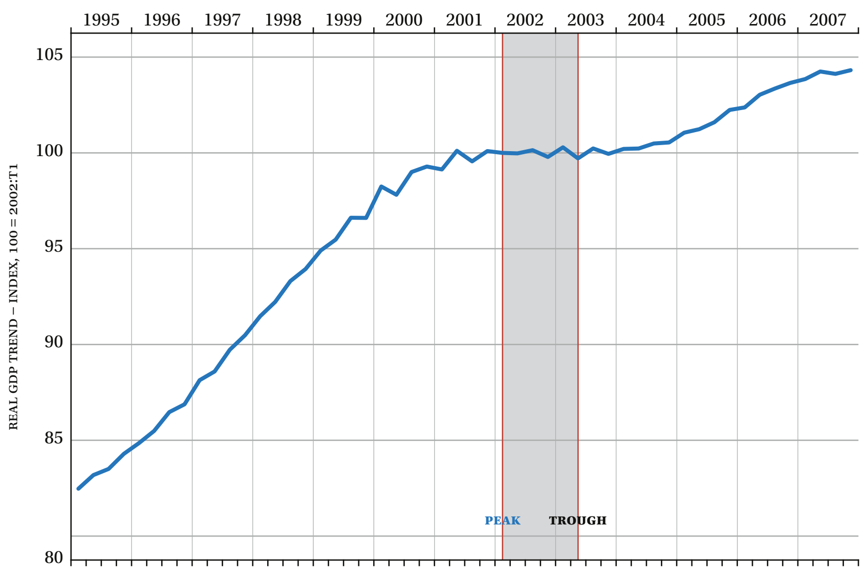
Thirdly, there was a profound change in the labour market (figure 4). In the 20 years prior, the unemployment rate was only slightly countercyclical. After the 2002:Q1 peak, the unemployment rate increased rapidly. After the trough, the unemployment rate did not decrease.

Figure 4. Labour market — employment index and unemployment rate (quarterly)



Source: Banco de Portugal, Committee.

Figure 5. Real GDP per capita trend (quarterly)



Source: Banco de Portugal, Committee.

Conclusion

Despite having the same duration as the previous recession (5 quarters), this recession had a much larger amplitude (2.9% versus 1.1%) and a sharp increase in the unemployment rate. This was not reflected in the trade balance or in industrial production, as usual, but rather in a decline in investment (public and private). This was due to a decrease in economic sentiment and a contractionary fiscal policy, which reflected the national political situation and the change in the available macroeconomic tools. The recession marked a break in the trend of economic growth. At the same time, the recovery after the trough was slow: it was only in 2005:Q2 that the Portuguese economy would recover the real GDP per capita it had registered in 2002:Q1.

4. Child of the international financial crisis: 2008:Q1–2009:Q1

PEAK: 2008:Q1 | TROUGH: 2009:Q1
LENGTH: 4 QUARTERES | AMPLITUDE: 4.4%

Summary

The 2008–2009 recession coincided with a deep international recession stemming from the Great Financial Crisis. The fall in international trade affected all small open economies, including Portugal, with an impact on investment, trade, and economic sentiment. The end of the recession came with a turning point in GDP, but not in the labour market, which changed its trend. The recovery was short-lived, with another recession starting at the end of 2010.

The trigger

The international financial crisis that began in the US in the summer of 2007 became known as the subprime crisis. The US economy reached its most critical point in 2008, when Lehman Brothers, one of the country's main financial institutions, filed for bankruptcy.

The effects of the recession on the American economy soon spread to the world economy, causing global exports to fall almost 20% between 2007 and 2009.

Portugal, which had been struggling with a stagnation in economic growth and with rising unemployment since the beginning of the century, soon felt the effects on its exports and bank credit.

The national financial system suffered a heavy blow and, in November 2008, the Banco Português de Negócios was nationalised.

The European response to the international crisis arrived in a coordinated manner, relying mainly on fiscal policy and monetary policy. The governments with room to manoeuvre were advised to increase public spending, particularly investment. The European Central Bank went ahead with a swift cut in interest rates to stimulate the economy.

However, the starting point was very different for many European countries. Portuguese public debt was already above 72% of GDP in 2007, and public spending was rigid and persistent.

Between imbalances and public incentives

The economic downturn was swift and made itself felt in several countries. Portugal's Gross Domestic Product started to fall in early 2008. Industrial production declined and economic sentiment deteriorated rapidly.

With high levels of debt and dependent on access to credit, the economy suffered from the slowdown in lending and the widespread distrust in the interbank market. The Portuguese banking sector was also highly dependent on its ability to obtain loans from international markets.

Public incentives were reinforced in 2009, with the launch of public works programmes, particularly roadbuilding, and a 2.9% salary increase for the civil service.

The main indicators

The decline in the economy during this business cycle was 4.4% between the peak and trough. The maximum value was reached in the first quarter of 2008. The lowest value came over a year later, in the second quarter of 2009.

The unemployment rate increased only slightly in the first three quarters of the recession. However, it continued to climb well beyond the technical end of this recession.

The fall in economic sentiment began shortly before the highest point in this business cycle, which is consistent with the uncertainty arising from the turbulence in the financial markets.

Industrial production plunges, with a steep decline in exports

This crisis came with an increase in the unemployment rate, which was above 7% in 2008, a relatively high level considering Portuguese economic history. Making matters worse, the end of the recession did not bring an end to the increase in the unemployment rate. While GDP recovered in 2009 and 2010, the unemployment rate went up another 2.4 p.p.

Exports plunged in a global crisis where the country's main trade partners also sank into a recession. Private investment fell. Mirroring this situation, industrial production fell steeply, around 20% and, after the recovery of GDP, it made no significant recovery.

Coming out of this recession was no more than an interval, after which the Portuguese economy plummeted into the next crisis, which arrived just over a year later.

Report

Environment

Between the trough of the last recession in 2003:Q2 and the peak detected in 2008:Q1, real GDP per capita increased by an average of 1.5% per year, in a reduced growth phase of the Portuguese economy. In this already depressed context, this recession was particularly violent, with real GDP per capita falling by 4.4% in just four quarters.

Externally, somewhere between the end of 2007 and the first half of 2008, the recession affected almost all countries with a significant weight in international trade. In the US, the peak occurred in December 2007, while in the Eurozone, the recession began in 2008:Q1. With some lag, the peak was recorded in 2008:Q2, in Spain.

The origin of the recession was the Great Financial Crisis. It began in the summer of 2007, with problems in US subprime housing loans, and reached its height with the bankruptcy of Lehman Brothers, in September 2008. The fall in the value of financial assets, which reduced the value of credit guarantees, and the distrust in the interbank system, contributed to a significant reduction in financing for the economy and in the credit necessary for international trade. Global exports declined by 19% between 2007 and 2009. The fragility of the Portuguese financial system led to one bank having its assets nationalised and another receiving state guarantees in 2008.

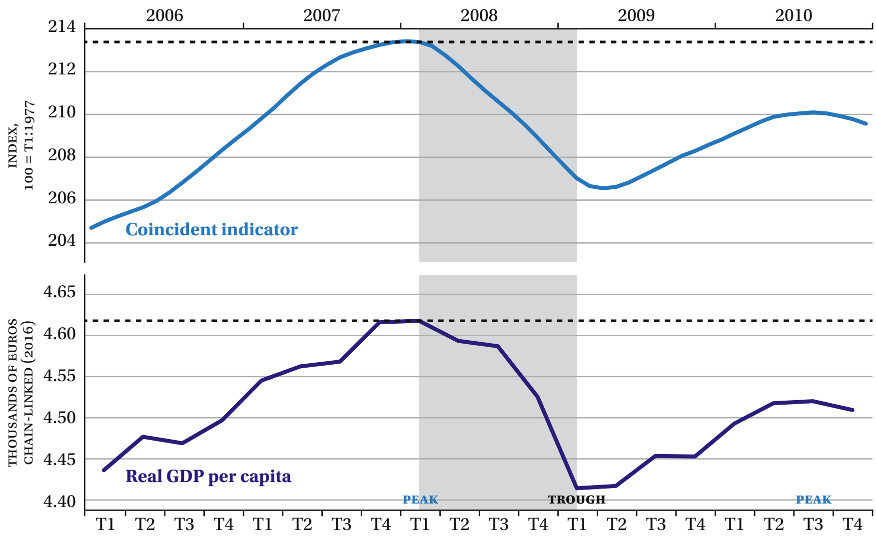
In Europe, there was a coordinated fiscal stimulus. In Portugal, in December 2008, an extraordinary package of stimulus measures was announced, budgeted at 2180 million euros, and in January 2009, a rectifying state budget expanded the stimulus. Given the Portuguese budgetary position, public debt grew from 72.7% of GDP in 2007 to 87.8% in 2009. Monetary policy was also expansionary, with the ECB reducing the key interest rate by 175 basis points between October 2008 and January 2009.

At the domestic level, citizens went to the polls three times in 2009: European elections (April), parliamentary elections (September), and local elections (October). The parliamentary elections resulted in the re-election of the previous government, with a relative majority.

Calibration of peak and trough

The real GDP per capita reached a local maximum between 2007:Q4 and 2008:Q1 (figure 1). The coincident indicator reached a maximum in January, indicating 2008:Q1 as the peak.

Figure 1. Coincident indicator (monthly) and real GDP per capita (quarterly)

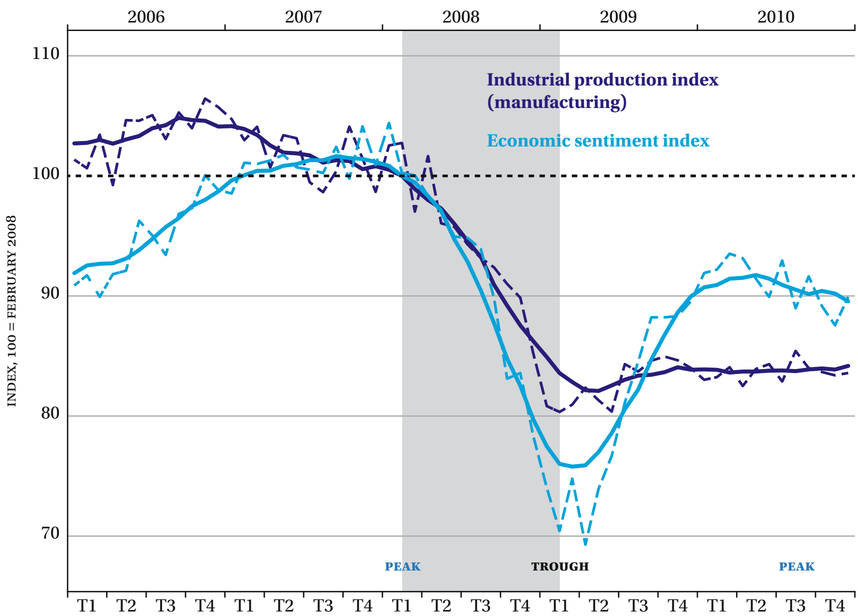


Source: Banco de Portugal, Committee.

Note: the horizontal dashed lines represent the value of the indicators at the peak defined by the Committee. (2008:Q1).

Industrial production (figure 2) was stagnant during 2007 and started clearly falling from December onwards. The breakdown of economic sentiment anticipated the calibration of the peak, consistent with the uncertainty resulting from the turbulence that began to be seen in financial markets.

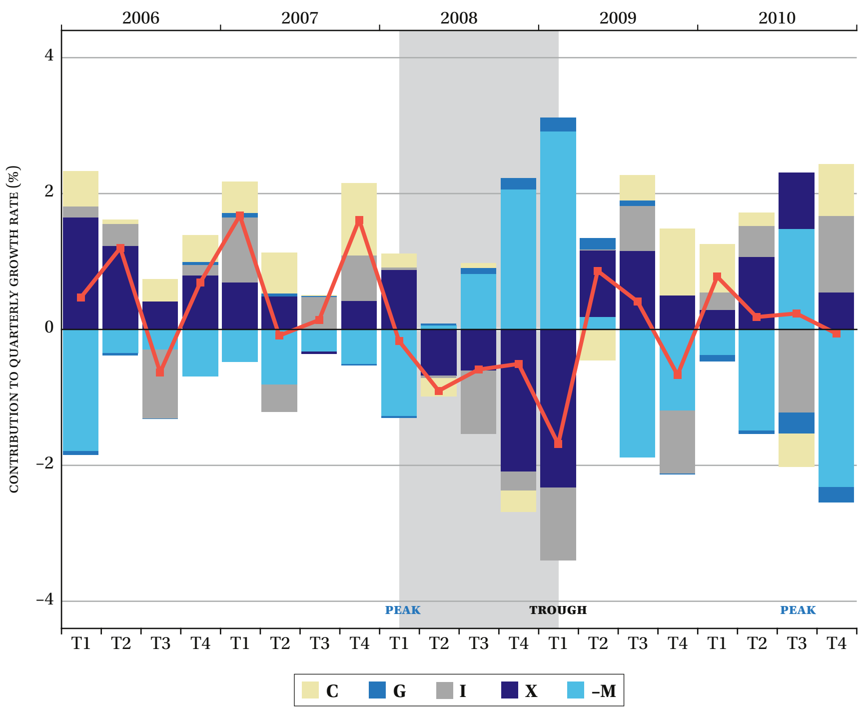
Figure 2. Industrial production and economic sentiment indices (monthly)



Source: Statistics Portugal, Eurostat.
Note: seasonally-adjusted (dashed line) and smoothed (solid line) series, by using a centred 9-month moving average. Both are indexed to 100 in the month before the peak quarter, for interpretation.

In terms of macroeconomic aggregates (figure 3), the international dimension of the crisis led to a contraction in exports from 2008:Q2. This was compounded by a drop in private investment, which was not fully compensated by the increase in public investment. During this recession, the contribution of private and public consumption towards the contraction in output was slight.

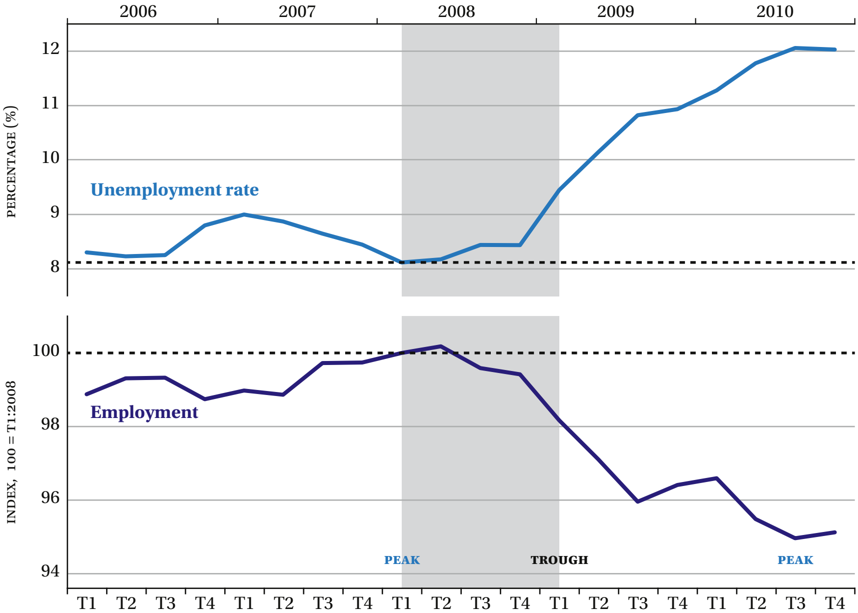
Figure 3. Decomposition of the quarter-on-quarter change in real GDP — expenditure approach (quarterly)



Source: Banco de Portugal, Committee.
Note: Positive contributions from imports (M) reflect negative rates of change of this aggregate.

The unemployment rate (figure 4) only rose slightly in the first three quarters of the recession. However, there was a slight inflection in the unemployment rate, with a local minimum in 2008:Q1, consistent with the dating of the peak from the output perspective. Likewise, total employment started to fall in 2008:Q2.

Figure 4. Labour market — employment index and unemployment rate (quarterly)



Source: Banco de Portugal, Committee.

The calibration of the trough is common to all indicators: real GDP per capita, coincident indicators, industrial production, and economic sentiment. All of them showed a clear inflection point in 2009:Q1. However, the pace of recovery was quite different according to different indicators. At one extreme, economic sentiment recovered quickly and sharply. At the other extreme, industrial production, which fell 20% between peak and trough in one of the largest cycles of the post-1980 Portuguese economy, showed no recovery, but rather was roughly stagnant after the trough.

Both GDP per capita and its coincident indicator grew after the recession, but at a slower pace than in the years preceding the recession. The difficulty in dating this recession's trough results from the fact that the next peak occurred only 6 quarters later, and its level was lower than that of the previous peak. It was not a robust expansion of the economy, because a second shock, of European and internal origin, would hit shortly afterwards, as happened in the rest of the Eurozone. From the output perspective followed by the Committee, there was a clear inflection in the economy after the trough.

The behaviour of the labour market was more unusual in this episode, requiring added explanations.

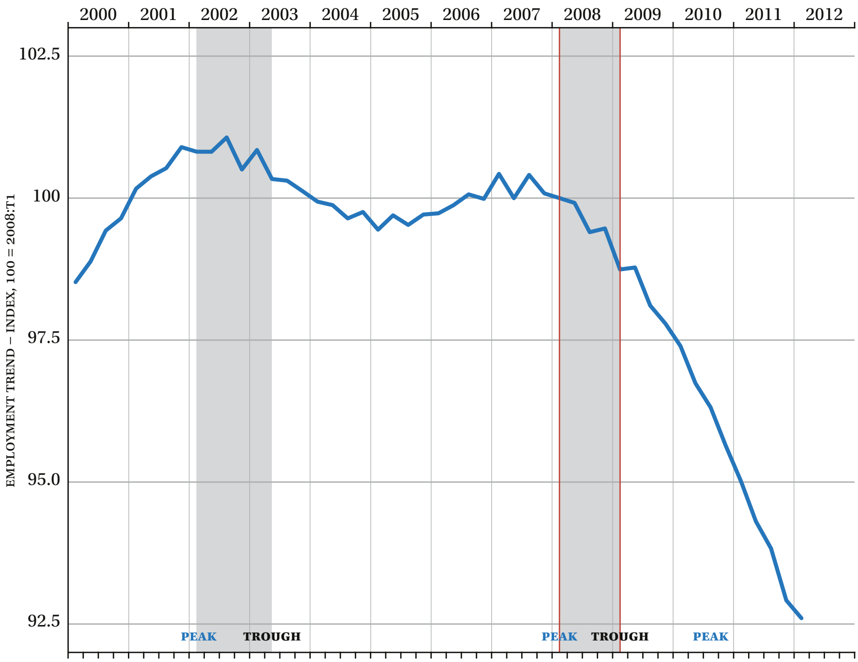
Indicators and additional factors

In this recession, the dating of the trough in 2009:Q1, based on output indicators, did not correspond to the signs from the labour market indicators (figure 4). At the end of the recession, instead of recovering, employment fell even more dramatically. The unemployment rate rose 2.4 p.p. between the trough in 2009:Q1 and the subsequent peak in 2010:Q3. While the product recovered, the labour market showed no signs of economic expansion.

Figure 5 shows the trend of employment, smoothed from fluctuations, since the year 2000. Despite the growth observed until 2002, the rest of the decade witnessed a moderate reversal of the trend, followed by some stagnation until the end of 2007. From 2008 onwards, employment in Portugal fell continuously. The period of economic expansion between 2009:Q1 and 2010:Q3 presented a positive gap in employment — the difference between employment and its post-2009 trend — as would be expected in an expansionary period. However, the decline in the trend led to a decrease in total employment.

The same point applies to the unemployment rate, with the structural trend dominating the business cycle. Some disaggregated labour market indicators, which are more cyclical and therefore more immune to trend changes, confirm this explanation. Particularly after the trough, the number of registered newly unemployed decreased and job offers increased.

Figure 5. Employment trend (quarterly)



Source: Banco de Portugal, Committee.

Conclusion

Triggered by a financial crisis that produced a confidence and international trade crisis, this recession affected all small open economies in the developed world. Bank credit was not immune to financial problems and the main trading markets of Portuguese companies underwent strong contractions. Thus, despite a considerable fiscal stimulus, private investment and trade recorded a sharp contraction. Only in 2017:Q1 would the level of real GDP per capita recover to values registered in 2008:Q1 (nine years later), and already after the subsequent recession. This recession also marks a structural change in the Portuguese labour market, after the one that occurred in the product market in 2002, with a new downward trend in total employment.

5. The longest and deepest crisis: 2010:Q3–2013:Q1

PEAK: 2010:Q3 | TROUGH: 2013:Q1
LENGTH: 10 QUARTERS | AMPLITUDE: 6.9%

Summary

The longest recession in Portugal since 1980 (the start of this section) was part of the sovereign debt crisis that affected several countries in the Eurozone, particularly Portugal. It came after a short expansion of only six quarters and was marked by a request for external aid. Private consumption fell more than in any other recession while, in contrast, the trade balance softened the impact. The unemployment rate reached a historic maximum, but from the trough there was a positive inflection in employment, which had been declining since 2008.

Environment

Only a year and a half had passed since the end of the previous recession. The world was slowly coming out of the financial crisis that had started in the US and spread throughout the world, with the financial sector at its centre.

Investors were wary and more risk averse following the losses recorded in the banking sector. Public debt had reached a high level due to the stimulus programmes launched in response to the previous crisis and the financial sector bailouts. Distrust spread to public debt markets and gave rise to a fear that many countries would not be able to honour their commitments. The interest rates charged on loans to countries began rising to compensate for this increased perception of risk.

The most severely affected countries were those in the periphery of the Eurozone. First came Greece, with the discovery that there had been some mis-reporting of state accounts. Then Ireland, dealing with a housing bubble the country's banks were exposed to. Next, it was Portugal's turn to be placed under the spotlight of financial markets. Not only did it have high levels of public and private debt but it was also coming out of a decade of poor economic growth, which called into question its ability to create enough income to meet these commitments. In an economy with low levels of savings, the Portuguese banking system had long been raising funds abroad to lend to the country.

External dependence was very high.

The inevitable bailout

The government led by José Sócrates introduced successive measures to restore the confidence of investors in Portuguese debt. The goal was to reduce the imbalance in public accounts and halt the rising debt to ensure better funding conditions. The first range of measures, focused on spending cuts, was announced in March 2010. Others followed, with further spending cuts or increased taxes. These were all restrictive measures which, unsurprisingly, led to a recession, beginning in the third quarter of 2010.

At the European level, Greece had asked the European Commission, the European Central Bank and the International Monetary Fund for aid in April. The same was in store for Ireland and happened in November of that same year.

The funding packages from the European Commission, the European Central Bank and the International Monetary Fund, a group known as the troika, were accompanied by measures aimed at correcting economic and financial imbalances in order to re-establish the countries' ability to finance themselves in private financial markets.

The government's successive attempts to avoid this last resort solution failed. Prime Minister José Sócrates resigned when the last austerity package was rejected in parliament and the bailout request became inevitable. It was submitted in April 2011 and involved a financial envelope of 78 billion euros. The plan would be applied by the government led by Passos Coelho, which had won the election held in May.

Europe equally in recession

Soon afterwards, most countries in Europe also fell into recession, making everything even more difficult. The combined effect of the external climate and the harsh measures that came with the financial bailout, all pushing for a recession in the short term, further worsened the crisis. Public investment and state spending were cut and private consumption fell, leading to an increase in unemployment and a drop in income. Without credit or confidence, investment by companies also declined. Only exports remained somewhat dynamic, but this proved insufficient to cushion the devastating effects of austerity.

The main indicators

This was the deepest recession since 1980, with a fall of 6.9%, and the decline continued for ten quarters. Such a large amplitude clearly reflects the severity of this crisis. The peak for this business cycle was reached in the third quarter of 2010. After that, the fall continued until the first quarter of the following year, at which time it had reached its trough.

Unemployment maintained its upward trajectory, continuing the trend carried over from the previous decade. The inflection came precisely after the end of the recession.

Economic sentiment had been recovering since early 2009, but later, between 2010 and 2012, it plunged by around 20%.

The effects continued for several years

The effects of this recession were devastating in both economic and social terms. Unemployment, which had been constantly increasing since the previous recession, exceeded 17% at one point. Household consumption fell by more than 10%, reflecting the drop in employment and income.

Industrial production also decreased, despite having been cushioned by increased exports. Foreign sales of products and services evolved favourably, with many companies finding an alternative to the recessive domestic market in exports.

The country only recovered its ability to finance itself on the markets after the end of the recession, when interest rates dropped, and some credibility was restored. The public deficit fell from a high of 11.4% of GDP in 2010 to 4.4% in 2015. However, public debt remained above 120% of GDP for some years.

In mid-2014, the exit from the troika bailout was on schedule. However, the effects of the crisis continued for some time and certain extraordinary measures that had been taken remained in force until at least 2020, including the increase of VAT on energy.

This was the most severe and most traumatic crisis experienced by democratic Portugal.

Report

Environment

The Portuguese economy had a brief period of growth between 2009:Q1 and 2010:Q3, with real GDP per capita rising by 2.7%. In the ten subsequent quarters of recession, the longest period of contraction since 1980, real GDP per capita fell 6.9% from its peak.

On the external front, the Eurozone was in recession between 2011:Q3 and 2013:Q1. In particular, Spain entered a recession in 2010:Q4, which lasted until 2013:Q2, and in April 2010, Greece requested a financial bailout from the troika, a group which consisted of the International Monetary Fund (IMF), the European Commission, and the European Central Bank (ECB). Ireland followed in November of the same year. The US did not go through any recession, as this was a European crisis that had Portugal and other peripheral countries at its root.

The European crisis had its genesis in several converging factors. First, public deficits during the previous recession led to an unusually high level of debt in the periphery, which was largely external as a result of high external deficits during the previous decade. Second, the financial crisis led to an increase in risk aversion, resulting in capital flows from the European periphery towards the centre, seeking safety. Finally, it became clear that, in compliance with the Maastricht Treaty, if European institutions or other European Union countries proceeded to bailout peripheral countries, this would be accompanied by particularly harsh adjustment requirements.

As a result of these factors, interest rates on public debt in the periphery rapidly and significantly increased. This debt crisis quickly spread to the banking system, amplifying itself in this interaction and causing strong contractions in credit and restrictive fiscal policies, with cuts in spending and increases in tax rates. At the same time, the «sudden stop» of financing to peripheral economies led to collapses in investment and consumption, requiring an internal devaluation to rebalance the balance of payments.

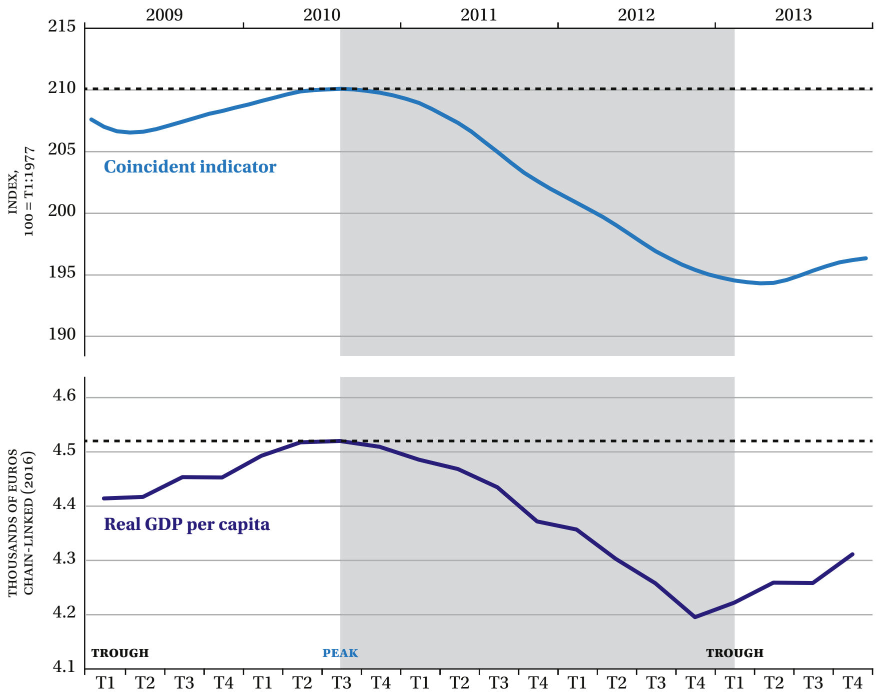
At the internal level, restrictive fiscal policy began in March 2010, with the approval of the Stability and Growth Pact (SGP-1), aiming to reduce expenses with public sector workers by 10% of GDP and implement a series of privatisations. In July, value added tax rates, personal income tax rates, and corporate income tax rates all increased. After successive and increasingly restrictive revisions, the failure to approve the so-called «SGP-4» led to the government's resignation in March 2011. Despite these measures, the spread of 10-year public debt (relative to Germany) continued to rise continuously and rapidly, from 2.9% at the beginning of 2010:Q3, to a historical high of 10.6% in July 2011.

Before that, in April, the outgoing government requested economic and financial assistance from the troika. Agreed in May, the Economic and Financial Assistance Programme (EFAP) offered a credit of 78 billion euros and imposed a package of structural measures aimed at reducing production costs, promoting competition, and increasing productivity. The new government took office in June and implemented the programme, which officially ended in 2014:Q2.

Calibration of peak and trough

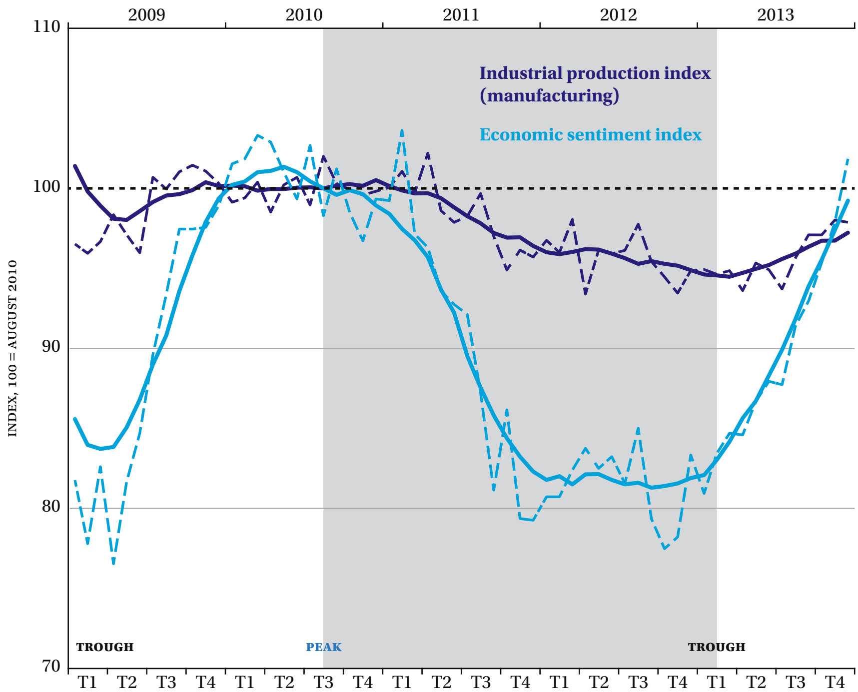
As shown in figure 1, real GDP per capita reached a local maximum in 2010:Q3, and the same happened with the coincident indicator, whose local maximum occurred in August.

Figure 1. Coincident indicator (monthly) and real GDP per capita (quarterly)



Source: Banco de Portugal, Committee.
Note: the horizontal dashed lines represent the value of the indicators at the peak defined by the Committee. (2010:Q3).

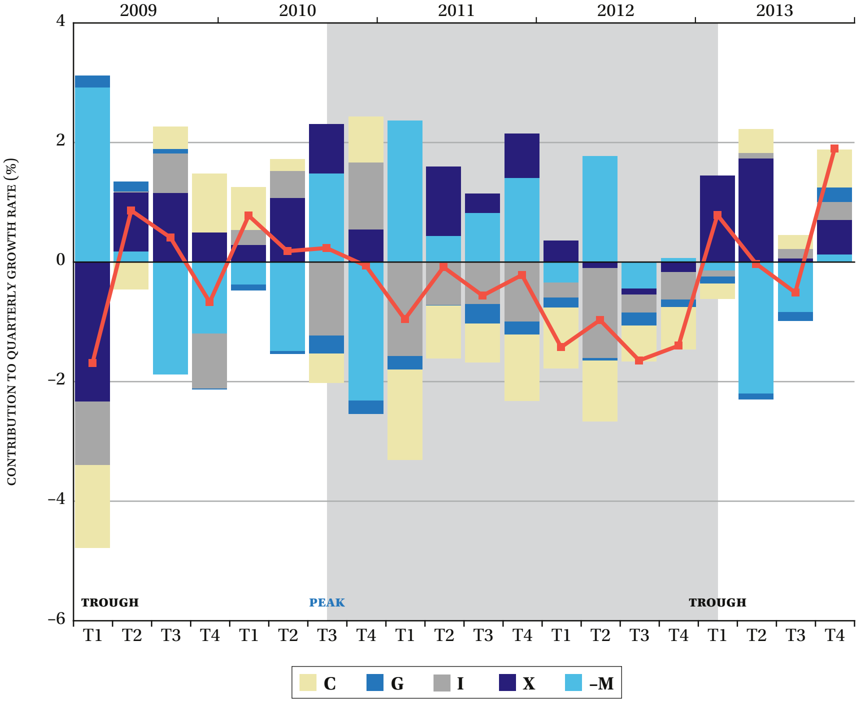
Economic sentiment, on the upswing since 2009:Q1, peaked in 2010:Q2 — coinciding with the announcement of the Greek bailout — and then fell by around 20% between 2010:Q3 and 2012:Q4 (figure 2). Industrial production, after a few quarters of stagnation which continued from the previous expansion, only fell from 2011:Q1 onwards.Figure 2. Industrial production and economic sentiment indices (monthly).



Statistics Portugal, Eurostat.
Note: seasonally-adjusted (dashed line) and smoothed (solid line) series, by using a centred 9-month moving average. Both are indexed to 100 in the month before the peak quarter, for interpretation.

In terms of macroeconomic aggregates, almost all components contributed to the recession (figure 3). The fall in consumption and investment was consistent with the reversal of economic sentiment and in line with previous recessions. Exceptional, on the negative side, was the drop in private consumption, which fell by 11% between peak and trough, the biggest fluctuation recorded since the beginning of the post-1980 dating work. Notable, on the positive side, was the adjustment of the trade balance, with positive net contributions from the trade balance (X-M) to real GDP growth in seven out of the ten quarters of the recession.

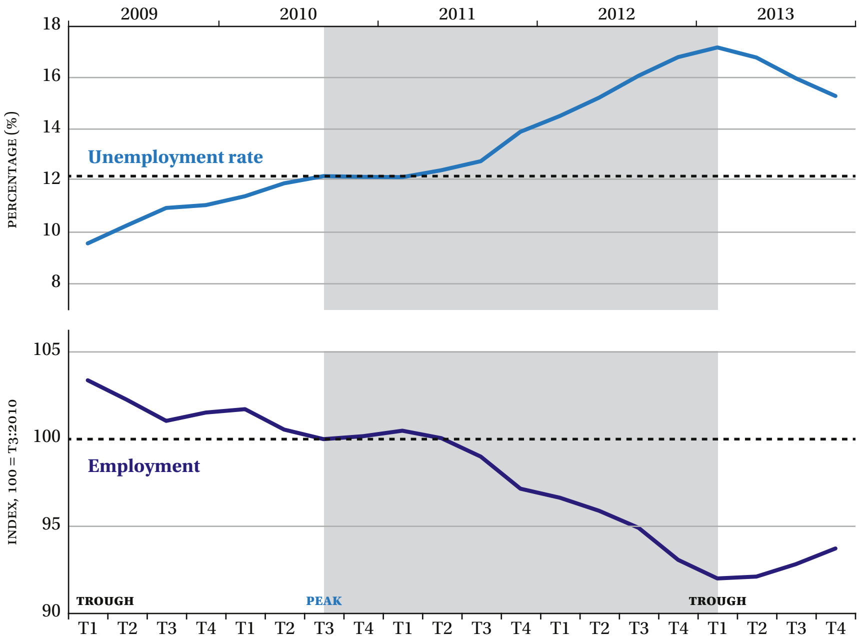
Figure 3. Decomposition of the quarter-on-quarter change in real GDP — expenditure approach (quarterly)



Source: Banco de Portugal, Committee
Note: Positive contributions from imports (M) reflect negative rates of change of this aggregate.

Keeping to the labour market trend that began in the last recession, unemployment continued to grow between the trough of the last recession in 2009:Q1 and 2013:Q1 (figure 4). If there was an inflection, it would appear almost in the middle of the recession, around 2011:Q3. On the employment side, the evolution was similar (in the opposite direction) but slightly more dramatic, as a result of the drop in the active population due to emigration.

Figure 4. Labour market — employment index and unemployment rate (quarterly)



Source: Banco de Portugal, Committee.

The trough occurred somewhere between 2012:Q4 and 2013:Q1. Real GDP per capita and the economic sentiment index recorded a minimum in 2012:Q4. The coincident indicator and the industrial production indicator fell until 2013:Q2. In the labour market, the unemployment rate reached an all-time high of 17% in 2013:Q1, falling thereafter. It was also in March that a protest demonstration with more than 800 thousand people took place in Lisbon. Using more monthly and sector-disaggregated indicators, the Committee agreed on 2013:Q1 as the trough of this recession.

Indicators and additional factors

The short expansion between 2009:Q1 and 2010:Q3 raises the question of whether this recession is nothing more than a continuation of the previous one, rather than a new economic cycle. In this sense, it should be noted that only in 2017:Q1 would the national GDP per capita return to the values of 2008:Q1, that is, 9 years later.

One argument in favour of there being two distinct business cycles is their correspondence with the two cycles in the Eurozone. Portugal stood out by entering this recession a year earlier than the Eurozone, being at the forefront of countries affected by the sovereign debt crisis. Its expansion was therefore shorter but aligned with the expansion in the Eurozone.

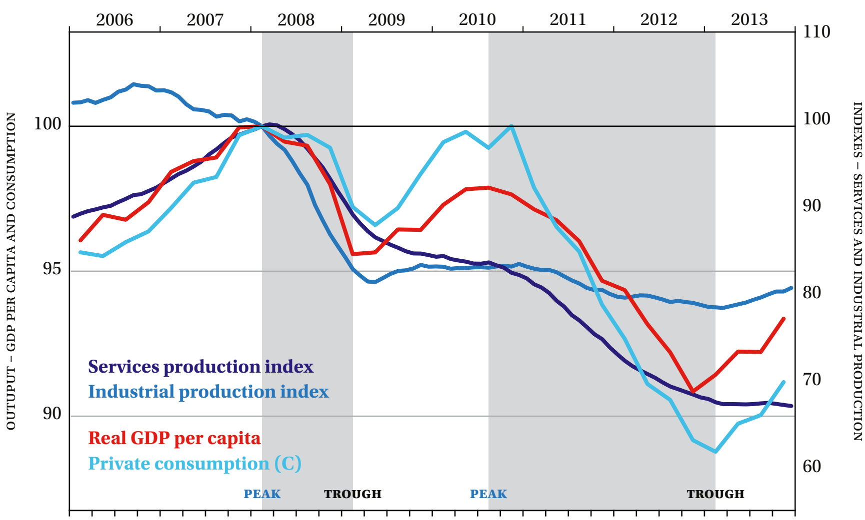
Second, the two recessions have distinct causes and mechanisms. The 2008:Q1–2009:Q1 recession was triggered by the Great Financial Crisis in the US and spread throughout the developed world, while the 2010:Q3–2013:Q1 recession had its root in the European sovereign debt crisis, applying only to the European continent. The fiscal policy response to the two crises was diametrically opposite, expansionary in the first and contractionary in the second. Industrial production played a more predominant role in the first recession, while private consumption fell significantly in the second recession.

Finally, figure 5 shows four output indicators, after the trend is removed, centred on the expansion and flanked by the two recessions. Although the recovery of real GDP per capita in the expansion was incomplete, private consumption returned to 2008:Q1 levels. This partially reflected a strongly expansionary fiscal policy, with the largest wage increases of the decade in the public sector and a wide-ranging programme of public investment and spending.

It was private investment and the trade balance that countered these trends, leading to the incomplete output recovery. The weak investment was a result of the uncertain climate generated by the financial crisis and the poor state of the banking system. The negative trade balance resulted from the increase in imports generated by the stimulation of domestic demand.

Figure 5 also shows that industrial production has a turning point in 2009:Q1, and that the fall is especially pronounced in the production of services. Both indices stabilised after this trough date, with industrial production registering a slight, but visible, recovery. After the 2010:Q3 peak, services fell again. The recovery was thus modest and unequal between different sectors, but sufficiently significant to mark the end of one business cycle and the beginning of another.

Figure 5. Real output per capita and private consumption (quarterly) & sectorial indices (monthly)



Source: Banco de Portugal, Committee.

Conclusion

Following an incomplete economic recovery, this recession originated in the Eurozone and the sudden stop of financing to the Portuguese economy. It was the deepest recession in this Committee's analysis period (since 1980), with a 6.9% drop in output. National circumstances, with economic stagnation lingering since the beginning of the century, high levels of indebtedness, and a strong link between banks and the State — which led to a major contraction in credit during the crisis — together with weaknesses in the institutional design of the Eurozone, translated into a contractionary fiscal policy, and a significant drop in output and particularly in consumption (11%). In the opposite direction, the trade balance had a particularly notable adjustment. The depths of this recession marked a turning point in the labour market, with the stoppage of the increase in unemployment that had already started in 2008:Q1. The recovery of real GDP per capita levels in 2010:Q3 would only happen 6 years later, in 2016:Q3.

6. The virus that halted the economy: 2019:Q4–2020:Q2

PEAK: 2019:Q4 | TROUGH: 2020:Q2
LENGTH: 2 QUARTERS | AMPLITUDE: 19.2%

Summary

This was the sharpest recession of the Portuguese economy since the start of the dating chronology (1980) and came as a result of the SARS-CoV-2 pandemic, an external shock to the global economy. The reactions of economic agents to the health emergency and the disruptions imposed on economic activity explain the largest recorded fall in real GDP per capita, concentrated in consumption and in international trade, followed by a vigorous recovery that started as early as 2020:Q3.

A unique crisis

This was an unparalleled crisis in several aspects. In the first place, the immediate trigger was not economic. Due to its unusual origin, the amplitude, length and some of the consequences of this recession were also different from historical patterns.

This crisis was not the result of imbalances or internal adjustments in the economy, but rather an external shock that affected the global economy: the outbreak of a pandemic, which led to most countries implementing health measures that directly or indirectly affected many economic activities and social dynamics.

On the last day of 2019, the World Health Organisation was notified of the existence of a «viral pneumonia», in Wuhan Province, in the People's Republic of China. The virus named «SARS-CoV-2», responsible for COVID-19, quickly spread to many countries in several continents.

Global uncertainty set in, causing a slump in international trade in the first quarter of 2020. Activity began to slow down and the peak of the business cycle had already been left behind, marking the beginning of the recession.

The epidemic spread rapidly and the first case in Portugal was confirmed on March 2. Two weeks later, the first state of emergency was declared, with a set of restrictions on economic activities, social contacts and the movement of people and goods, aimed at trying to halt the increase in the number of people infected and the corresponding health consequences. The restrictions included limitations to movements on public roads, closing schools, closing public services, mandatory homeworking and the reinstatement of land borders.

This first period of restrictions, which formally reached its end on May 2, caused a significant fall in trade as well as in the consumption of goods and services, with the predictable consequence of a sharp fall in GDP, which explains the highest fall in real GDP per capita since records began, and which made itself even more broadly felt in 2020:Q2.

A short and violent crisis

The decline in economic activity was concentrated in consumption and international trade, which saw their biggest fall since World War II. Tourism, which has an important weight in the Portuguese economy, was one of the most affected activities, with effects extending beyond the restrictions, given the uncertainty that reigned. The Portuguese travel and tourism surplus fell 62.2% between 2019 and 2020, to 4.958 billion euros.

The uncertainty also brought about a 40% decline in the economic sentiment indicator between March and May 2020. Along with the restrictions to trade, restaurants and hotels, this gave rise to a substantial increase in family savings, which went from 7.3% of available income in 2019 to 13.1% in 2020.

The lockdown measures had a positive impact on health and, after May 2020, with a fall in the number of new infections, the restrictions to economic activity gradually began to be lifted. This is likely why the beginning of the first half of 2020 saw the highest quarter-on-quarter growth in real quarterly GDP since records began, around 15%, dictating the end of the recession caused by the COVID-19 pandemic.

The unprecedented slump in the economy was then followed by a robust recovery, marking the atypical nature of this crisis, which was short and severe.

Recovery with setbacks

The recovery began but it was not without its setbacks, once again determined by the containment measures that were being put in place as the pandemic spread.

The most severe measures came in late 2020 and early 2021 — as can be seen in the timeline above — when there was a significant increase in the number of cases, hospitalisations and deaths associated with COVID-19. This development, which was common to most countries in Europe, once again caused a slowdown in international trade and in consumption. However, real GDP per capita decreased a good deal less in the first quarter of 2021, despite a stronger rise in cases and similar response measures, and recovered fully in the second quarter of 2021. The private sector had adapted to learn how to keep working in spite of this shock. Therefore, despite its extent and the severe health impact, this new state of emergency did not cause a recession in the Portuguese economy. The fall in GDP was less severe than during the first state of emergency and its recovery was even faster.

The main indicators

The fall in the economy, measured by real GDP per capita, was 19.2% between the highest and lowest points in the business cycle. The peak of this business cycle was reached in the last quarter of 2019, and there was a steep fall in the second quarter of 2020, which led to its trough.

Economic sentiment fell sharply throughout the entire first quarter of 2020, reflecting high uncertainty among economic agents. For consumers, this uncertainty drove spending down.

The contraction in international trade led to the steepest decline in trade of goods and services since World War II. The minimum value for this period was reached in the second quarter of 2020, but even after that it continued below normal pre-pandemic levels.

The unusual impact on the labour market

The consequences of this crisis were also atypical in some of the impacts they caused, particularly due to the public policy measures implemented to mitigate its effects.

The changes in the labour market were the most noticeable. The impact on unemployment was unusual because of the introduction of a simplified layoff system, which allowed many employees to maintain their jobs although they weren't working, due to the pandemic containment measures. The state covered part of these expenses, which led to the highest ever number of companies using this labour system.

Only after the first state of emergency and the end of the trough identified in this recession — the second quarter of 2020 — did the unemployment rate start reflecting the contraction in economic activity. The changes in hours worked was the indicator that most consistently followed changes in GDP.

Likewise, the introduction of several exceptional credit moratorium schemes cushioned the impact of this crisis on the credit obligations of companies and families.

Also contrary to the norm in recessions, the building industry saw virtually no contraction.

Report

Environment

The Portuguese economy expanded for twenty seven quarters between 2013:Q2 and 2019:Q4, with real GDP per capita growing at an average of 0.6% per quarter. This is the second shortest contraction since 1980. After the peak of economic activity in 2019:Q4, real GDP per capita fell 19.2% in the following two quarters, also making it the most violent contraction.

On March 2, 2020, the first case of SARS-CoV-2 infection was confirmed in Portugal. News of the virus immediately led to voluntary isolation and great uncertainty about public health. On March 19, the first state of emergency in Portugal was declared, lasting until May 2, 2020. The state of emergency included a set of measures to limit social contact, such as restrictions to human mobility, closure of all schools, closure of all services that require in-person customer service, mandatory homeworking, and the temporary reintroduction of border controls. After May, the country entered a state of calamity, gradually lifting restrictions on economic activity at different times and places.

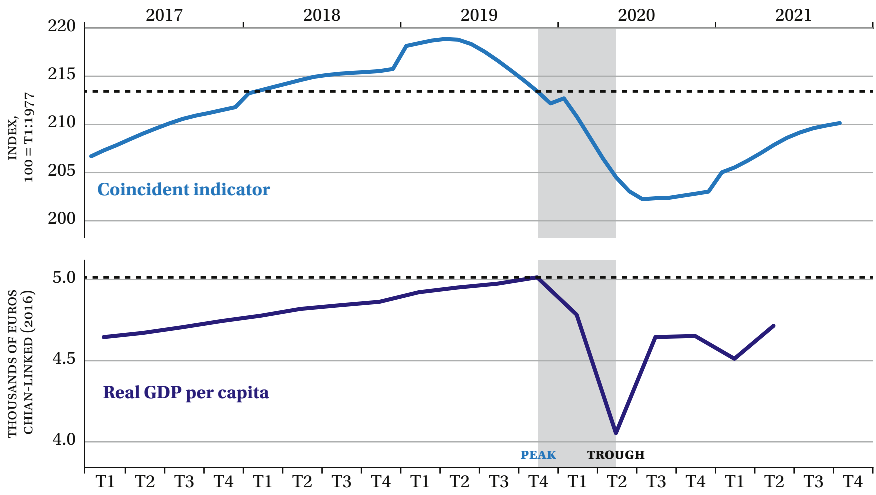
The global health shock had a notably contractionary effect. By the end of May 2020, the World Health Organization reported infections in at least 83 countries, including all of Portugal's major economic partners. The international trade of goods and services recorded the largest decline since World War II, in both value and volume.

Internal policies attempted to soften the decline in households' income with a simplified lay-off regime, which subsidised salaries for over 110 thousand companies (an expense estimated at 890 million euros) between March and June of 2020. On the financial policy side, the standout was the credit moratorium regime, which started in March and reached more than 750,000 contracts, covering loans worth a total of 48 billion euros (August 2020).

Calibration of peak and trough

Real GDP per capita (smoothed) reached a local maximum in 2019:Q4 (figure 1). Despite some variables already pointing towards a deceleration at the end of 2019 (when the Banco de Portugal's (BdP) coincident indicator reached its historical maximum), the majority of indicators clearly reversed their trend between the middle and end of 2020:Q1.

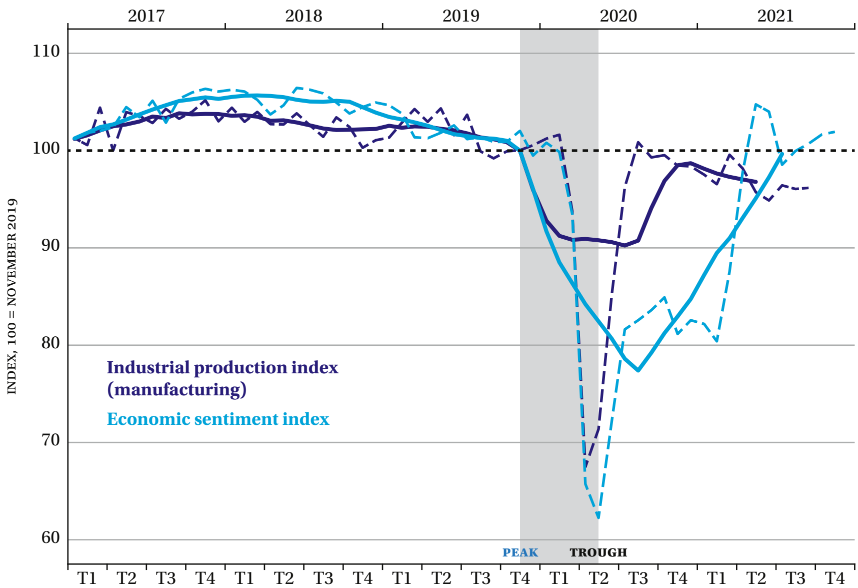
Figure 1. Coincident indicator (monthly) and real GDP per capita (quarterly)



Source: Banco de Portugal, Committee.
Note: the horizontal dashed lines represent the value of the indicators at the peak defined by the Committee. (2019:Q4).

Although in Portugal the state of emergency was only imposed towards the end of March, international trade was already in contraction by February and voluntary isolation had begun in early March. This had clear effects on the industrial production index (figure 3) and the Banco de Portugal's coincident indicator (figure 1). The Portuguese economy was already in recession during the second half of the quarter.

Figure 2. Industrial production and economic sentiment indices (monthly)

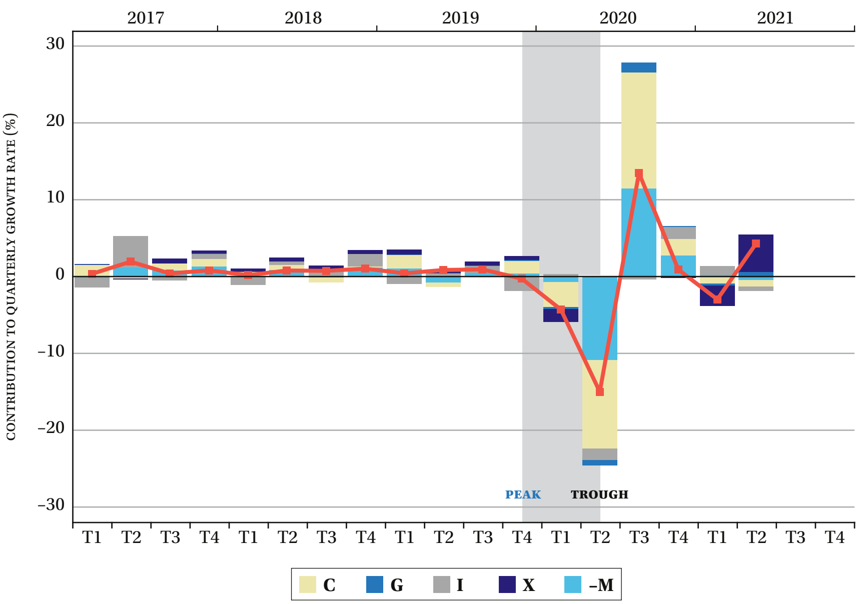


Statistics Portugal, Eurostat.
Note: seasonally-adjusted (dashed line) and smoothed (solid line) series, by using a centred 9-month moving average. Both are indexed to 100 in the month before the peak quarter, for interpretation.

Economic sentiment recorded a 40% drop between March and May of 2020, reflecting the great uncertainty of the moment (figure 3). In May 2020, the confidence of trade and industry leaders regarding the evolution of demand in the following three months reached historical lows. This recession is characterised by a wave of fear and uncertainty among economic agents.

In terms of macroeconomic aggregates, the unusual nature of this recession is visible in its composition (figure 2). First, it resulted from a contraction in exports and imports, with the drop in international trade causing recessions in almost all regions of the world, especially in small open economies like Portugal. With the closure of borders, followed by their reopening a quarter later, GDP initially fell, rising afterward mainly through exports and imports. Second, there was a contraction in household consumption as a result of the increase in precautionary savings, voluntary isolation, and confinement policies. Investment, which is traditionally the most volatile element and the largest contributor to the economic cycle, remained stable.

Figure 3. Decomposition of the quarter-on-quarter change in real GDP — expenditure approach (quarterly)



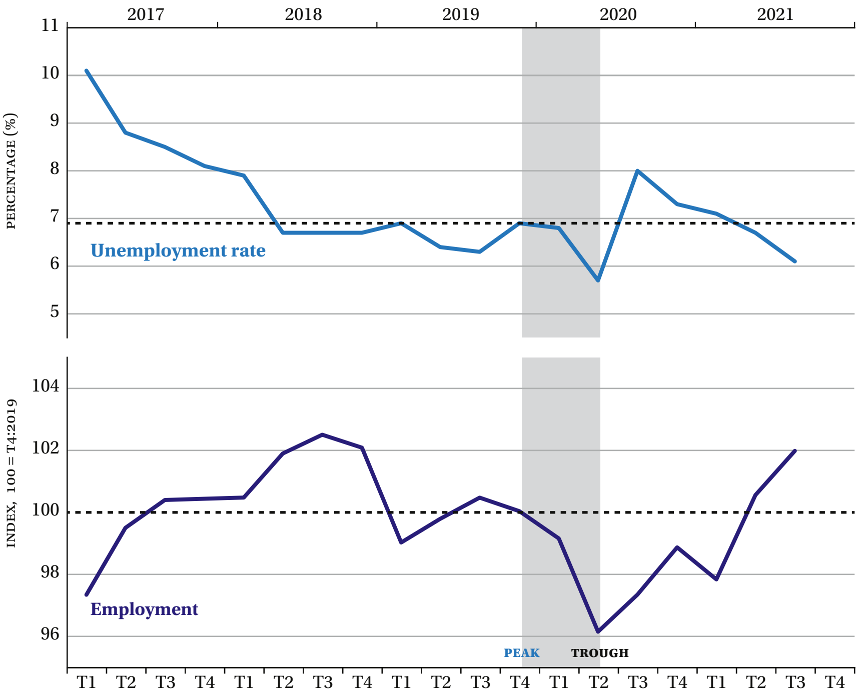
Source: Banco de Portugal, Committee.
Note: Positive contributions from imports (M) reflect negative rates of change of this aggregate.

Another characteristic of this recession relates to sectoral heterogeneity. The sharp decline of activity in tourism-associated industries particularly affected the Portuguese economy. For example, since 1987, the monthly number of overnight stays in the national hotel industry had not fallen below 100,000. The recovery was significantly slower in services than in goods. In industry, the production of consumer goods suffered more significant declines than that of investment goods. Unlike in normal recessions, the construction industry barely contracted.

Labour market dynamics were unusual during this downturn (figure 3). Due to public policy responses, such as the simplified lay-off regime, many workers remained employed, although not working. Therefore, the unemployment rate was not informative in the calibration of this recession, and output and labour were disconnected. Only after 2020:Q2, when the state of emergency ended, did unemployment gradually begin to reflect the contraction in economic activity. Total employment and hours worked turned out to be more sensitive to the cycle and are consistent with the trough calibration in 2020:Q2.

The trough of this recession precedes the highest quarter-on-quarter real GDP growth on record (around 15%). The Committee considers the minimum level of economic activity in 2020:Q2 to be unequivocal. However, the expansion that followed is different, since it is sensitive to the pandemic evolution and the severity of the health policies adopted.

Figure 4. Labour market — Employment, unemployment and unemployment rate indices (quarterly)



Source: BdP, Committee.

Indicators and additional factors

In 2021:Q1, there was a slight drop in real GDP per capita, associated with a new variant of the virus, which led to the return of the state of emergency between November 9, 2020, and April 30, 2021. With the tightening of health policies, real GDP per capita fell by 3% in that quarter but fully recovered in the following one (figure 1). Again, all the changes in GDP registered during this quarter were a result of the components of international trade and consumption. At the sector level, tourism and services were also the most affected here, with construction remaining stable.

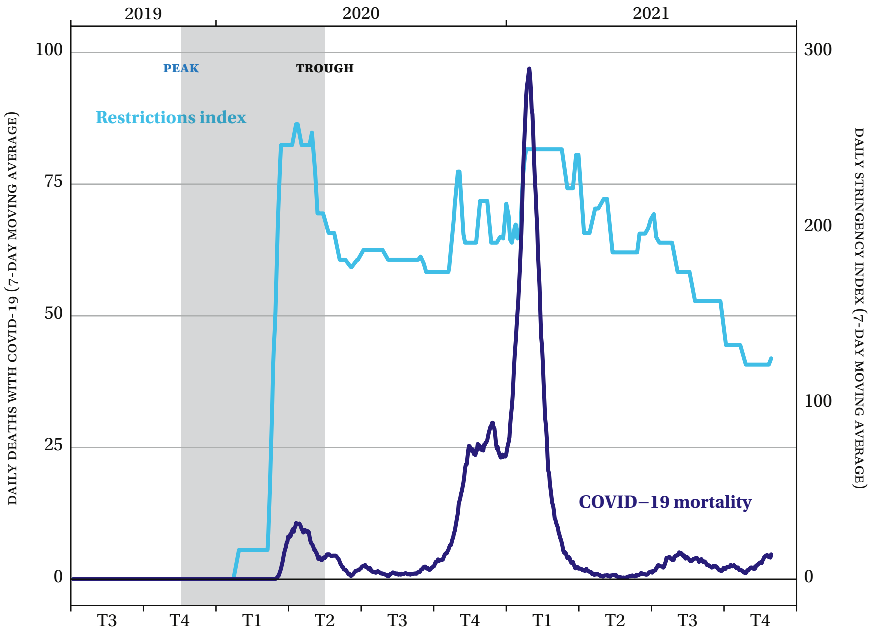
Qualitatively, the 2021:Q1 contraction was similar to that of 2019:Q4 - 2020:Q2. Quantitatively, however, the evolution of economic activity in these two periods was quite different. Not only was the amplitude of the oscillation much smaller, but the duration was also shorter. Therefore, 2021:Q1 does not qualify as a recession.

As figure 5 shows, the health shock was larger. In 2020:Q4, mortality was already at higher values than in the recession quarters. The peak of the new wave of infections in 2021:Q1 was of an order of magnitude higher than that seen during the recession (the «first wave»). The restrictions imposed by the confinement measures were as intense and even more prolonged than those in force during the recession.

Despite a larger shock, and similar policy responses, this wave of the pandemic did not produce a recession, but rather a «hiccup» in the recovery process. In 2021, economic agents were less uncertain about the health and economic implications of the virus. Production processes had already adjusted to confinement policies. Workers were already routinely in telecommuting mode. Optimism and confidence in the health measures were greater, sustained by the start of vaccination for the most vulnerable population.

Every recession is different, and for the most part result from shocks that are, at least partially, unexpected. Comparing the 2019:Q4–2020:Q2 recession with the hiccup in the recovery in 2021:Q1, shows that this recession was particularly unexpected in the type of shock, its effect, and the policies adopted. The uncertainty surrounding it was enormous, although this quickly diminished with increased access to information about the virus and the discovery of a vaccine. Thus, the recession was violent and, at the same time, short-lived.

Figure 5. Intensity of confinement policies (and other restrictions) and COVID-19 mortality (daily)



Source: Directorate-General for Health, Oxford University.

Conclusion

As is the case with many of Portugal's recessions, the origin of the shock behind the 2019:Q4 - 2020:Q2 contraction was external to the national economy. This time, the shock was global and external to economic life, a virus that brought enormous uncertainty and concern for public health. Voluntary isolation and confinement policies produced a drop in effective work, production, consumption, exports, and imports, with a special focus on hotels and restaurants, while investment and civil construction were little affected. The recovery was as quick as the crash had been. The slight drop in economic activity in 2021:Q1, following a health shock greater than the previous one and similarly restrictive public policies, shows that, as soon as the economy had some time to adjust, it was possible to respond to the effects of the virus with more resilience, avoiding a new recession.

Section 2: business cycles from 1910 to 1979

7. Three crises in one: 1973–1978

PEAK: 1973 | TROUGH: 1978 | LENGTH: 5 YEARS

Summary

After two decades of remarkable economic expansion, the Portuguese economy underwent significant transformations between 1973 and 1978, leading to a long recession. This resulted from the succession of three distinct but consecutive and overlapping economic crises. In the second half of 1973, Portugal suffered the effects of the increase in oil prices and the global recession, which reduced emigration and remittances from emigrants. The revolution of April 25, 1974, and the transition to democracy, initially triggered political instability and disrupted economic activity, as well as creating a demographic shock with the return of military personnel and civilians from former colonies. Finally, the accumulation of external imbalances culminated in a balance of payments crisis in 1977, and the request for support from IMF programmes in 1977 and 1978. It was only from 1978 onwards, with a consolidated democratic regime, political and social stability, and the balance of payments adjustment programme, that the Portuguese economy would once again grow in a sustained manner, following one of the longest recessions in its history.

Report

1. Context

Internal context

In 1973, the Portuguese economy had been experiencing an unprecedented period of economic expansion for two decades. Not only had the last trough occurred in 1953, but these twenty years also witnessed the highest annual growth rate of real GDP per capita in Portuguese history. During this period, Portugal became industrialised and opened to international trade. Although Portugal was still one of the poorest and most closed countries in Western Europe in 1973, it was closer to other nations regarding those two indicators than it was twenty years earlier.

The Portuguese colonies represented 15% of metropolitan Portugal's exports and 10% of its imports in 1973. The wars for independence in Angola, Guinea-Bissau, and Mozambique, which began between 1961 and 1964, dragged on and continuously mobilised between 50,000 (in 1961) and 150,000 (in 1973) potential workers each year, the majority of whom came from the mainland and were therefore subtracted from participation in economic activity to serve in the Armed Forces. In 1974, when the war ended, the deployed Portuguese contingent exceeded 170,000 military personnel. Military expenses associated with the conflict reached 8% of GDP in 1969 and coincided with continuous international pressure to end one of the last European colonial empires.

The 1960s and the early years of the 1970s were marked by significant emigration. Around one million Portuguese nationals left the country. In part, they left in search of opportunities arising from the increased demand for labour in the more developed economies of Western Europe, and also because economic growth in Portugal led to an opening of the borders. They also left to flee from war and military conscription, as well as to escape the political repression and the lack of individual freedom.

External context

On August 15, 1971, the US government suspended the convertibility of the dollar into gold. Immediately, and permanently from March 1973 onwards, this led to the end of the international fixed exchange rate system that had been in place since the post-World War II period, and in which Portugal participated by pegging its currency to the dollar from 1949. This allowed for exchange rate stability and price stability between the late 1940s and early 1960s, followed by a gradually accelerating rise in inflation. Monetary policy was subordinated to fixing the exchange rate. Negative trade balances were offset by high remittances from emigrants, allowing for the accumulation of a reasonably high stock of foreign currency and gold.

2. The three crises

During the period from 1973 to 1978, the Portuguese economy underwent three distinct crises. Each of them would likely be sufficient to cause an economic contraction. Because they occurred successively and partially overlapped, the economy did not enter a period of sustained recovery that would allow for the identification of a clear trough between them, indicating a prolonged recession instead.

The oil crisis of 1973

In October 1973, following the Yom Kippur War, OPEC restricted the supply of oil to the Western world in general and to some countries in particular, including Portugal, which had allowed the use of the Lajes air base by the American military during the war. The embargo led to long lines at petrol stations. At the time, oil represented three quarters of the country's primary energy sources. The global economy immediately went into recession, not only due to the significant increase in energy prices but also due to a rise in the price of various other raw materials caused by the *El Niño* phenomenon, which affected global production. Portugal, which had already partially opened its economy to foreign trade at the time, suffered from the contraction of its exports, as well as from the deterioration of its terms of trade.

National macroeconomic policies reacted passively or even pro--cyclically. On the monetary policy side, there was an increase in the 180-day interest rate policy from 6.75% to 9.25% on December 1, 1973. This increase aimed to curb the accelerating inflation that had accompanied the expansion of credit and money supply, as well as the stock market boom during that year. Between November 1973 and April 1974, there was a sharp decline in stock prices and trading volume. Nevertheless, credit to monetary institutions grew by 8.8% quarter-on-quarter in the first quarter of 1974, and commercial banks significantly reduced their excess reserves.

Fiscal policy did not respond to the oil shock. Military expenses were financed through a contraction in public investment and the issuance of domestic public debt. The government had not changed the tax system in years. Finally, the large volume of foreign exchange reserves meant there was no imminent risk of a balance of payments crisis, despite the impact of the oil shock.

The political crisis during the revolutionary period of 1974–75

The April 1974 revolution brought enormous changes to the country's political, social, and economic structures, which cannot be adequately reviewed here. For the limited scope of business cycle analysis, it is important to highlight two phases that had immediate impacts on economic activity during this period, in addition to the permanent changes in the structure of production. In a short period, Portugal experienced an accelerated increase in the power of trade unions, an increase in labour costs, price controls, a profound change in the corporate structure, and some capital flight.

Between April 1974 and February 1975, in addition to political and economic instability and uncertainty, there was a significant increase in public expenses and a flight of private capital. In 1974, 80,000 new public sector workers were hired, as a result of the integration of employees from the colonial administration, and this continued in the following years. In the private sector, the state intervened in several struggling companies by appointing boards and granting public credit. In May 1974, a national minimum wage was established for the first time and, by the end of the year, several social benefits were created, dismissals were made more difficult, strikes were legalised, and new unions were formed. The government increased the nominal minimum wage by 20% in 1975, although there were still several exceptions in its coverage, and administrative price controls were simultaneously imposed, leading to a sharp reduction in firm profits. In response to capital flight, limits to cash withdrawals were imposed, and the escudo ceased to be freely convertible abroad in May 1975. This combination of policies resulted in high public deficits that were monetised, leading to an inflation spike of 37% in 1974.

In a second period, spanning from March to November 1975 (known as the «hot summer»), economic uncertainty increased. Land was collectivised throughout 1975, especially in the southern region of the country, reaching its peak in 1976, with around 40,000 permanent workers and 1,1 million hectares within the Collective Production Units (UCPs) in the Agrarian Reform Intervention Zone (ZIRA). Between 1974 and 1976, favourable weather conditions led to large wheat, oat and barley harvests, and supported considerable nominal increases in agricultural wages. The adverse weather conditions in the 1976–77 meteorological year contributed to a 70% and 55% decline in the annual production of wheat and oats, respectively, in ZIRA, initiating the process of returning the land to private ownership (Barreto, 2017). Lastly, almost all banks and insurance companies were nationalised, as well as industrial units in strategic sectors (Amaral, 2019). The exact magnitude remains to be measured, but it is estimated that by 1978, 24% of GDP was placed in state-owned enterprises (Pinho, 1976).

In addition to the political and monetary instability, this two-year period was also marked by a demographic shock. Emigration, which had been a constant in the previous decade, suddenly came to a halt. Starting in 1974, and especially in 1975, military personnel and civilians from the former colonies were abruptly transported to Portugal. The integration of this large population into the productive sector was not easy, especially considering the instability in the corporate sector. The admission of new public workers and the increase in public administration wage expenses put pressure on public accounts.

The balance of payments crisis of 1976–78

Between November 1975 and July 1976, there was a clarification of the political regime towards the consolidation of democracy, which remains to this day. The country held its first parliamentary elections in April 1976. By the end of that year, a process of reversing indirect nationalisations began, and a public investment plan was presented. These changes reinforced budget deficits, partially financed by the central bank.

The fiscal and monetary expansions, which occurred from 1973 to 1976, put pressure on Portugal's balance of payments, depleting external reserves. At the same time, political instability had led to a lack of external financing. After obtaining credit lines from the European Investment Bank and the US Treasury in 1976, which still proved insufficient, the country turned to the IMF for a $750 million bailout loan from a group of Western countries in April 1977. The programme led Portugal to adopt a set of drastic austerity measures in 1978–79, including quantitative limits on credit, as well as a gradual devaluation of the escudo to restore competitiveness.

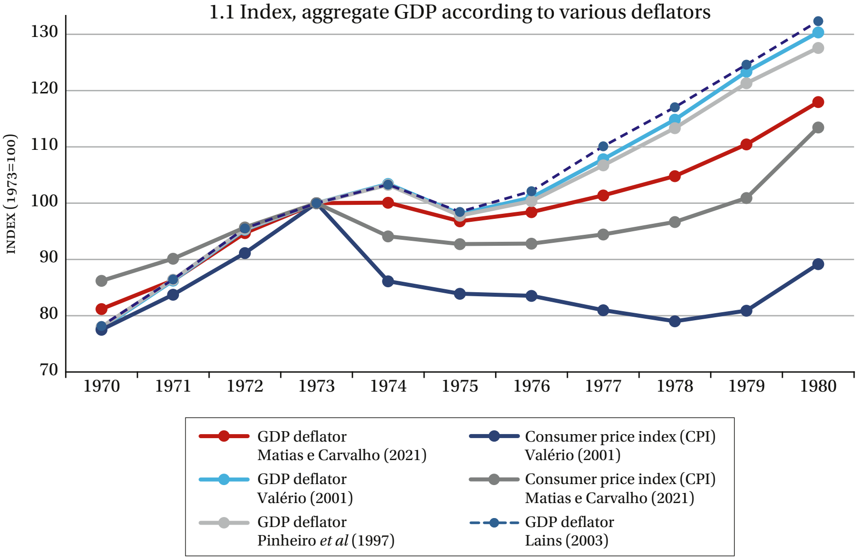
3. Main indicators and proximate factors

Production and national income series

Before 1980, there is no consensus series for Portuguese real GDP per capita, but rather several estimates from different authors. The aggregate series in escudos are similar, but there are significant differences in the measures of price indices and population. Official statistics did not keep up with the soaring inflation and the enormous fluctuations in immigration and emigration, leading different historians to propose various ways of improving the reliability of the source data.

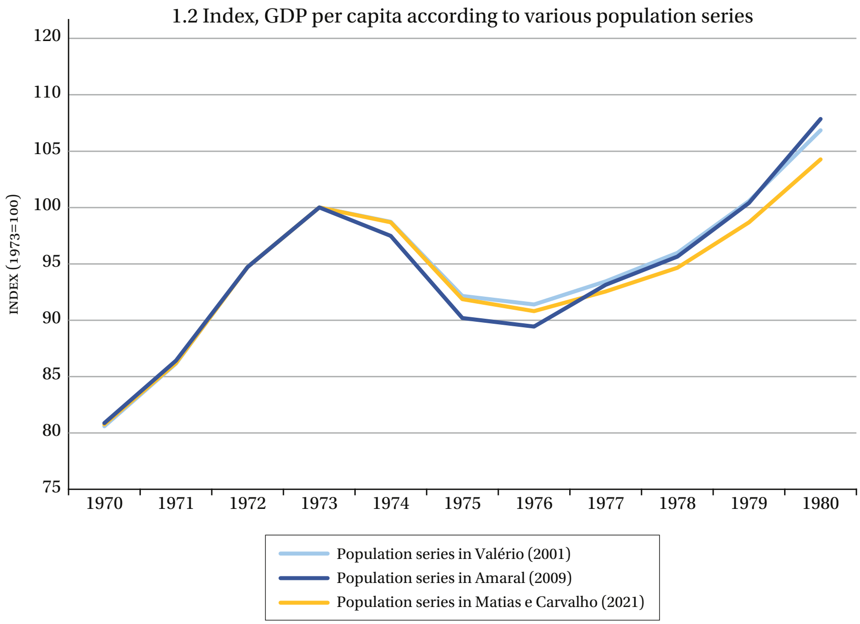
The top panel of figure 1 uses the same nominal series to construct six different series of real GDP, corresponding to six different price measures. The bottom panel of the figure chooses one of the price indices but uses three different population series.

Figure 1. Evolution of real GDP according to various series



Sources: Nominal GDP: Matias and Carvalho (2021); Deflators: see legend.

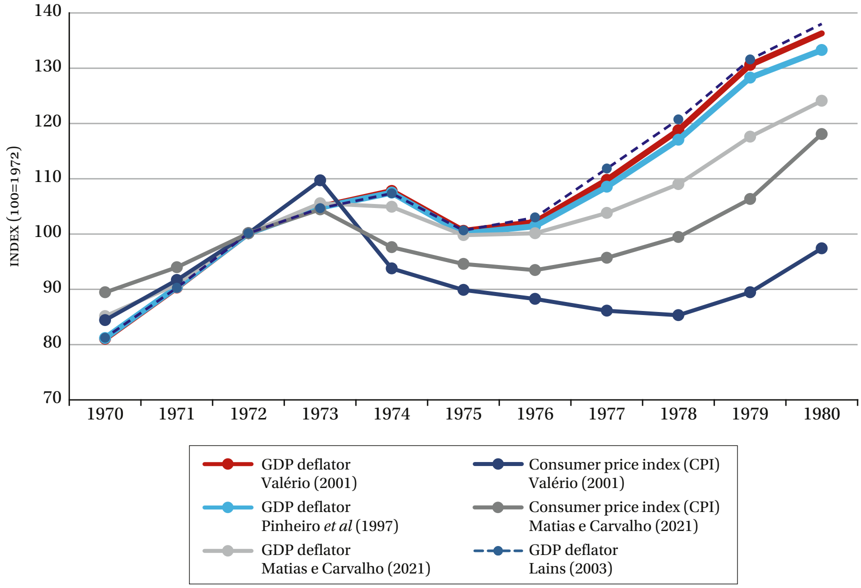
Although different population series provide different answers to several important questions, they coincide in the dating of the cycles by conveying a peak in 1973 and a trough in 1975 or 1976. However, the price indices yield significantly different messages, with some indicating a peak in 1973 and others only in 1974. The uncertainty regarding the trough is even greater, with different series showing local minima between 1975 and 1978.



Sources: GDP and implicit deflator: Matias and Carvalho (2021); Population: see legend.

With the unusual and significant changes in remittances from emigrants, which played an important role in the standard of living of the resident population, disposable income does not exhibit the same behaviour as GDP during this period. Figure 2 replaces GDP with a measure of gross national disposable income and again uses six different price series to obtain its value at constant prices. For dating the peaks and troughs, this series once again demonstrates the substantial impact of price indices. An analysis based solely on these aggregate measures would face considerable challenges in dating the peak and trough of the recession.

Figure 2. Evolution of gross national disposable income according to various deflators

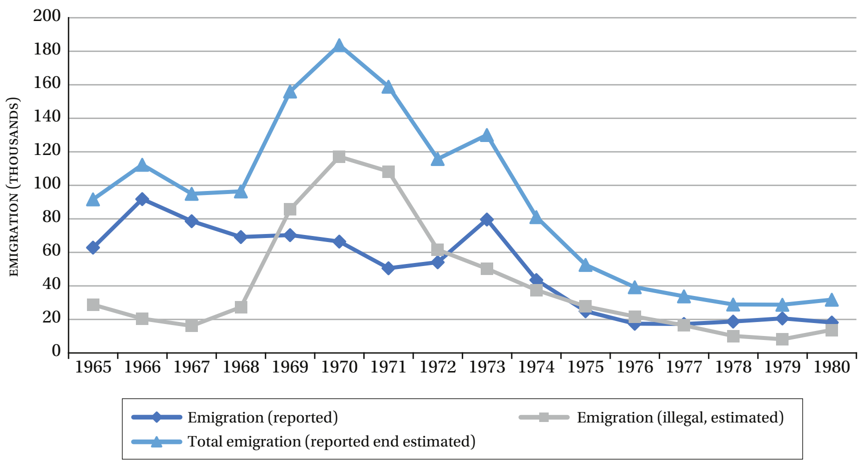


Sources: National Disposable Income: Matias and Carvalho (2021); Deflators: see legend.

While the different population series may point to the same dates, that does not mean the population does not play a significant role in this cycle. On the contrary, due to a substantial increase in population in 1973, aggregate real GDP measures suggest a peak in 1973 or 1974, while real GDP per capita measures clearly indicate 1973 as the peak of economic activity. Similarly, the per capita series indicate a trough no earlier than 1976.

This does not mean that either aggregate or per capita output are individually more suitable for dating cycles. They convey different information relevant for assessing the state of the Portuguese economy at the time and point towards the need for an analysis based on multiple indicators and an investigation into the underlying factors behind the differences. Figure 3 shows the variations in emigration and immigration, which are exceptional during this period, that are behind these fluctuations in population. On the emigration side, with the revolution and the end of the colonial war, there was a decrease in the outflow of people for political reasons. Economic emigration also declined due to the global crisis. On the immigration side, thousands of civilians returned to Portugal from the colonies between 1974 and 1975, resulting in a population surge that would have been even greater if some of them had not stayed in Portugal for only a few months before emigrating to other destinations.

Figure 3. Demographic dynamics 1965–1980

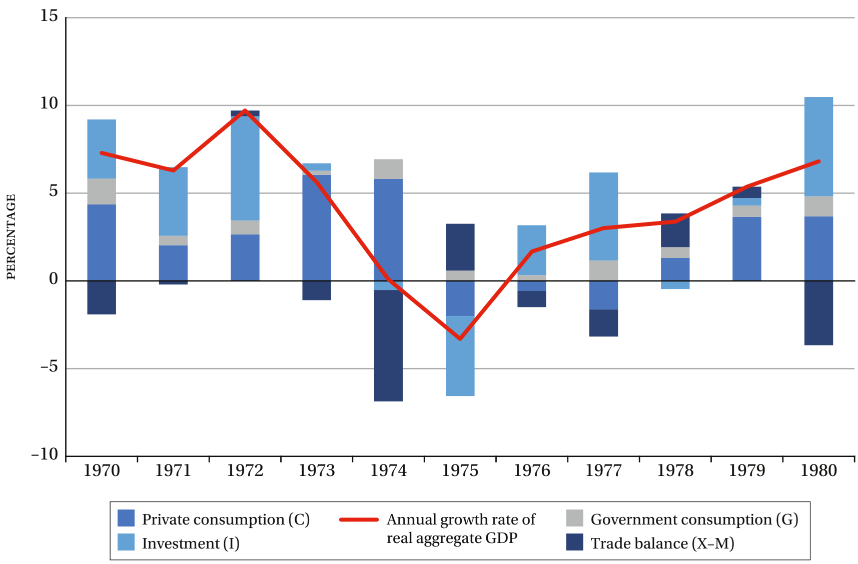


Source: Valério (2001), based on Baganha (1994).

Decomposing economic activity

The composition of GDP in figure 4 reveals the difference between the three crises that affected Portugal during this period. The trade balance deterioration between 1973 and 1974 caused by the oil crisis is clearly visible. Another small contribution to the reduction of GDP came from the decline in investment in 1974, probably caused by capital flight and the instability of political and labour relations, which decreased the return on capital accumulation. This decline in investment intensified in 1975, following the nationalisations and political and economic uncertainty, which was also accompanied by a decrease in household consumption, especially of durable goods. Consumption remained contracted from the period marked by balance of payments problems (1976–77) until the trough in 1978, with a noticeable expansion of private consumption in that year, following the loans and adjustment programme associated with the IMF mission.

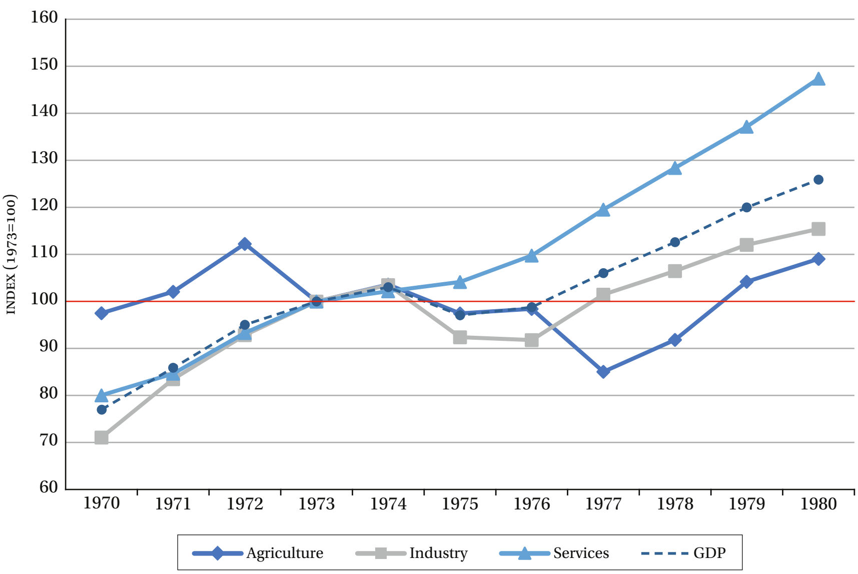
Figure 4. GDP according to the expenditure approach



Source: Matias and Carvalho (2021).

When it comes to the sectoral composition of GDP, it is worth noting that although agriculture was only responsible for 11% to 12% of the value added during this decade, it still accounted for 26% of employment. Portugal was an industrial economy, with the secondary sector contributing between 37% and 52% of GDP (according to different measures) and 36% of employment. In figure 5, the effect of land occupation and the nationalisation of industries is visible. The economic contraction that occurred between 1974 and 1977 is concentrated in these sectors: this recession is still an agricultural recession, although now the source is political, and the industry plays an equally or even more important role in the cycle. The services sector expands continuously, although at a clearly slower pace in 1974 and 1975, during the nationalisation of transportation and communications, as well as banking and insurance. In fact, the weight of the financial sector in GDP dropped from 10% in 1973 to half (5%) at the end of this recession.

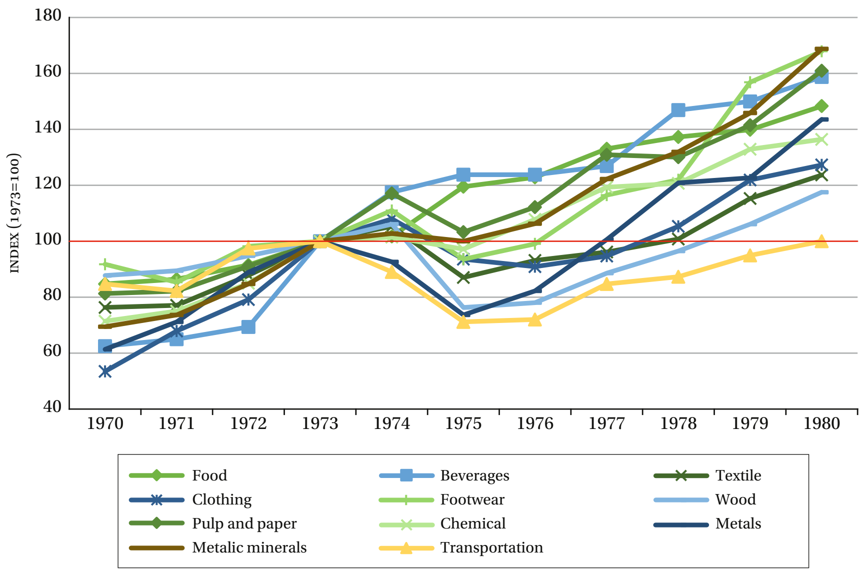
Figure 5. Evolution of sectoral (real) output



Fonte: Lains (2003), based on Pinheiro et al (1997).

Figure 6 shows the evolution of the main industries in the secondary sector. The ones that contracted the least (food and beverages) were the ones least exposed to the expansion of the public sector or to capital flight during this period. The largest declines (metallurgy and transport materials) coincide with the industries that experienced more extensive nationalisations, as well as where the increase in nominal wages and the rise in uncertainty may have had a greater impact because they were more export-oriented and therefore more sensitive to the loss of competitiveness.

Figure 6. Industrial production indices (main industries)

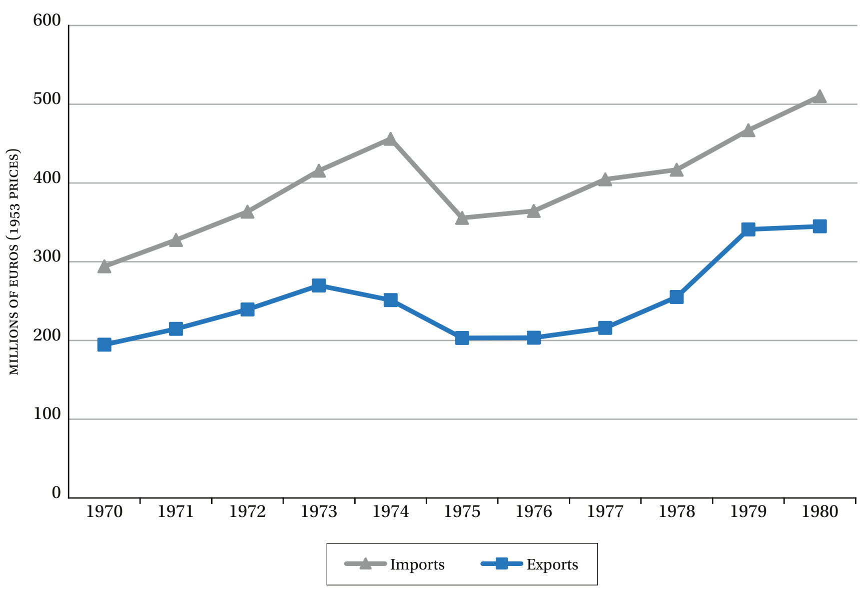


Source: Nominal series and corresponding implicit deflators: Matias and Carvalho (2021).

External factors

Looking specifically at exports and imports, figure 7 shows that the main change occurred during the 1973–74 shock. At constant prices, the global recession resulted in less international trade. From 1975 onwards, imports recovered more quickly than exports, and the trade deficit worsened, accompanying the decrease in domestic production and loss of external markets. In current prices, the increase in oil prices reduced the country's terms of trade, as Portugal relied on oil imports as an energy source. Import values increased sharply, mainly due to their rise in prices, while the global recession led to a clear decline in exports. Between 1975 and 1978, the trade deficit was high, well above the levels of the 1950s and 1960s, leading to a depletion of Portugal's international reserves prior to this recession.

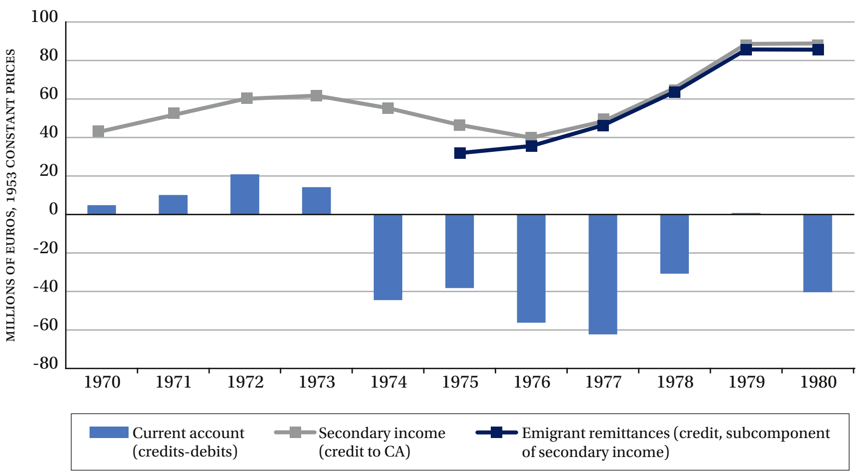
Figure 7. External trade



Source: Matias and Carvalho (2021).

During this period, emigrant remittances were as important as the trade balance for Portugal's financial position. Figure 8 shows the balance of payments, as well as emigrant remittances (only from 1975 onwards), which are credited to the current account balance, one of the components of the balance of payments. Since remittance data is not available before 1975, the figure also includes the secondary income series, which captures unilateral transfers and closely follows emigrant remittances. The transition from comfortable surpluses to significant deficits occurred in early 1973, and the deficits persisted throughout the recession until 1978. Emigrant remittances, which declined in 1974 and 1975 partly due to the global recession, began to rise again from 1976. However, this increase was not sufficient to offset the growing trade balance deficit.

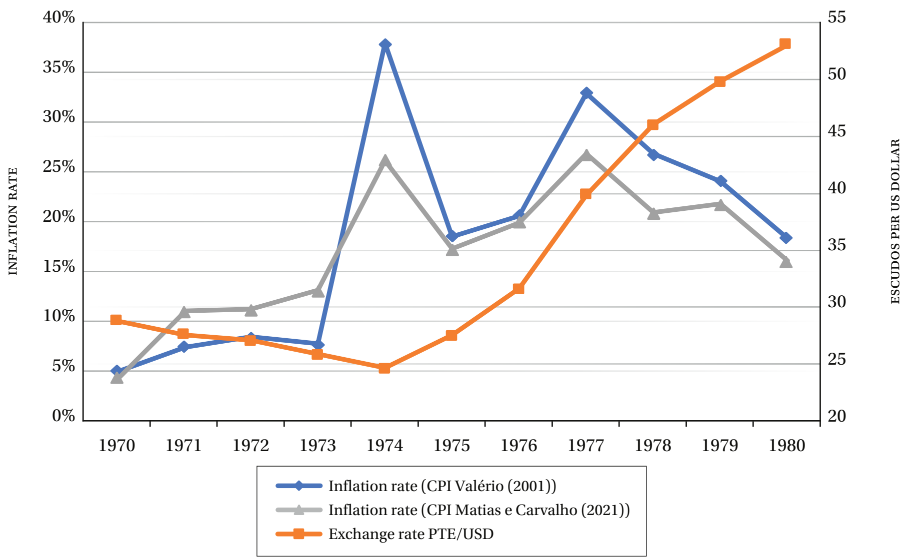
Figure 8. Current account and emigrant remittances



Source: Nominal series for the balance of payments: Matias and Carvalho (2021).
Deflator: implicit GDP deflator in Matias and Carvalho (2021).

Figure 9 illustrates the deterioration of the economy's nominal anchor: the increase in prices of goods and the loss of currency value. The inflation rate surged in 1974 and remained high during the recession, following decades of price stability. The end of the Bretton Woods system and the rise in energy prices contributed to inflation accelerating, along with the significant increase in public spending and the printing of money to finance these expenses. As a result, despite nominal wages increasing, there was a stagnation in real wages and in household disposable income. This recession was characterised by stagflation, similar to most Western economies during this decade. The other face of inflation was the escudo's exchange rate. After decades of financial stability and strict adherence to the gold standard, Portugal saw its currency depreciate by 43% against the dollar between 1973 and 1978.

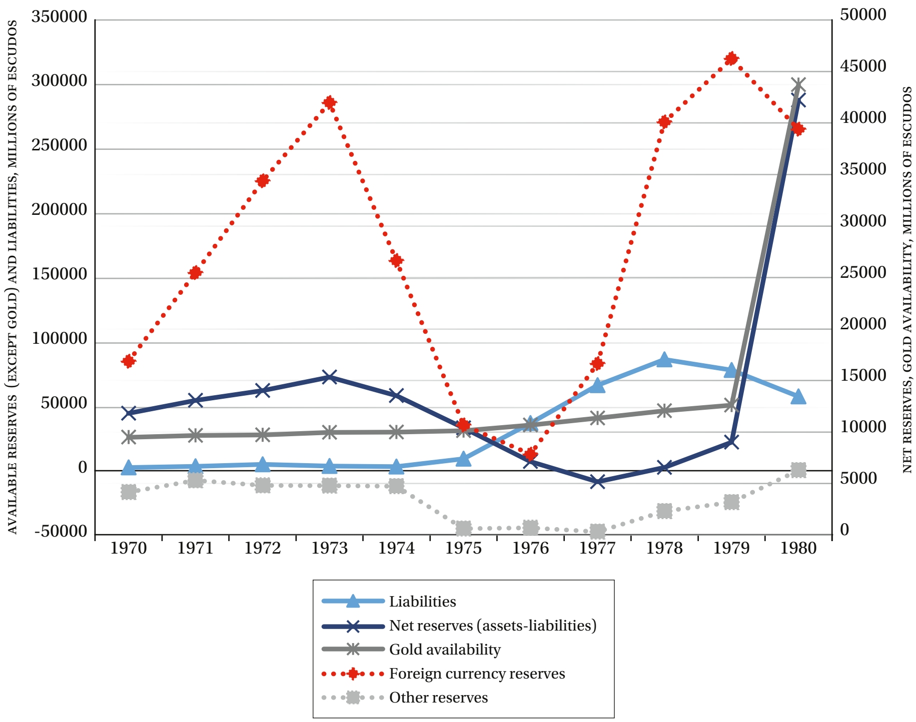
Figure 9. Inflation and the exchange rate



Source: Exchange rate: Valério (2001); CPIs: see legend.

The balance of payments crisis of 1977 was inevitable given these external indicators. Figure 10 confirms this, depicting Banco de Portugal's official reserves. Since the onset of the recession after 1973, the decline in reserves had been continuous and intensified during the third phase of the crisis in 1975–77. The IMF programme brought a turning point in 1978, aided by a revaluation of the nation's gold reserves, and there was a clear and rapid improvement in the national accounts from 1979 onwards.

Figure 10. Banco de Portugal's official reserves

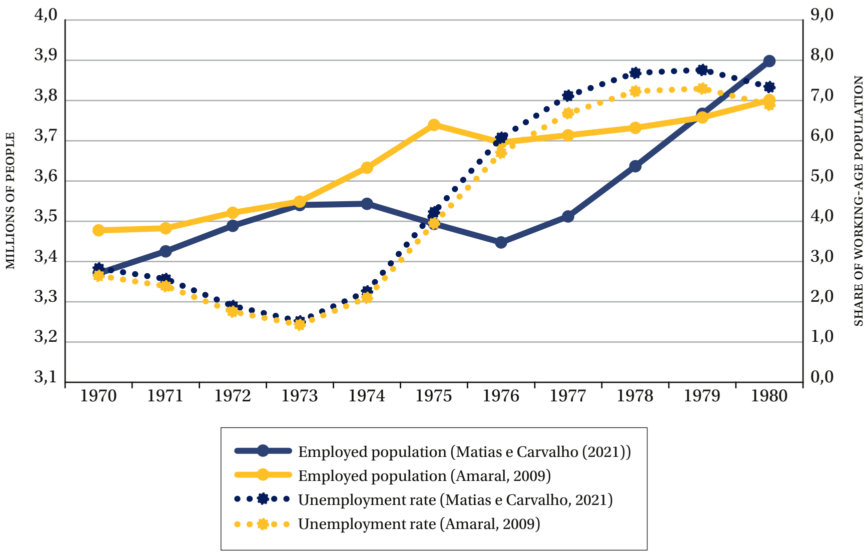


Source: Pinheiro et al (1997).

Labour market

Finally, at a time when the role of the state in employment becomes significant, two final indicators inform the business cycle. The first, in figure 11, is the employment data. Despite the hirings in public administration, the unemployment rate grows continuously during this recession, partly due to the increase in active population. This indicator clearly points to a peak in 1973 and a trough in 1978.

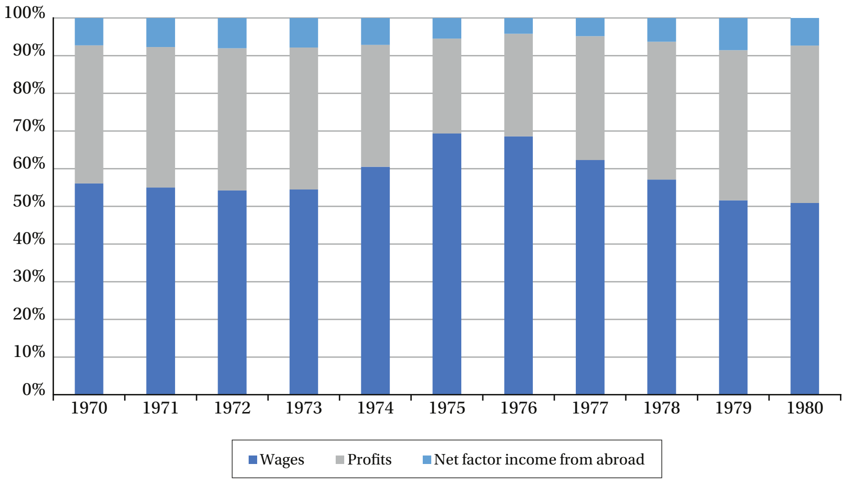
Figure 11. Employment in Portugal, 1970–1980



Source: Matias and Carvalho (2021).

The second indicator is the share of labour and capital income in the distribution of output, represented in figure 12. The second phase of this recession, in 1974 and 1975, is visible in the significant increase in labour income, whose share in disposable income rose from 55% in 1973 to 69% in 1975. From then on, the labour share declined continuously because real wages also fell continuously due to inflation, reaching pre-recession levels by 1980.

Figure 12. Gross disposable (nominal) income composition



Source: Matias and Carvalho (2021).

4. Calibration of peak and trough

Looking at the aggregate GDP series alone, the Committee considers it defensible to establish this business cycle's peak in either 1973 or 1974.

However, adjusting by the increase in population in 1974, resulting from the influx of population from previous colonies and the decline in emigration, shows that per capita GDP is already declining in 1974. This indicates that the peak had occurred in 1973. Furthermore, when looking at the major exporting industries, as well as the behaviour of investment, the contraction is evident and profound during the year of 1974, with close shocks including the global recession and political instability during the transition to democracy. Finally, the contraction in emigrant remittances and the impact of the oil price increase on the country's terms of trade led to a sharper contraction in disposable income than in output. The Committee does not have sufficiently accurate quarterly data available for dating. However, all signs point to the peak occurring in one of the first three quarters of 1973, followed by a contraction in the last quarter caused by the oil shock.

For dating the trough, different indicators give different signals. Measures of per capita GDP and production indicators point to a trough in 1976, but labour market measures only recover from 1978 onwards. The Committee decided that 1978 was the turning point for a robust economic recovery. This recovery significantly slowed down in 1980, with a recession in Europe associated with the oil shock of 1979. However, expansionary policy (using the leeway provided by the 1977–78 adjustment programme) and the recovery dynamics from the 1970s crisis, allowed the Portuguese economy to continue growing before finally reaching a peak in 1983.

A difficult question is whether this five-year recession should be separated into two or even three distinct recessions. Considering the three distinct factors in the genesis of this economic contraction, as well as its phases, it would be understandable to do so. However, the Committee decided it was more appropriate to date only one recession. The three phases partially overlap, so the economy never experienced a trough followed by a period of expansion of at least one year that would allow us to identify the end of the previous recession. In the absence of reliable quarterly data, it becomes even more difficult to detect expansions between the three periods.

5. Conclusion

The peak of economic activity in Portugal in 1973 coincided with a peak in most Western economies. The oil shock, which quadrupled the oil price, deeply affected economies like Portugal, which relied on oil as its main source of energy. Furthermore, the use of the Lajes air base by the US for providing military supplies to Israel during the Yom Kippur War led to a total embargo by OPEC countries on oil exports to our country.

However, while European economies recovered in 1974 or 1975, Portugal entered a process of profound social and political change. The revolution of April 1974 brought freedom to the Portuguese people and laid the foundations for a stable and solid long-term democracy. However, in the short term, the inherent instability of the revolutionary process kept economic activity depressed. In the specific case of Portugal, nationalisations, land collectivisation, the rapid increase in nominal wages, and the abrupt population growth significantly reduced per capita output.

Finally, between 1975 and 1977, external account imbalances resulting from the two previous shocks worsened and led to a more conventional balance of payments crisis. The recourse to a first IMF loan in April 1977, and a second loan in June 1978, partially resolved this problem, allowing the Portuguese economy to begin the recovery process, with the trough in 1978.

In the 1980s, Portugal became increasingly integrated in the European Union economy, therefore experiencing more synchronised cycles with other regions of the Union. The recession of 1973–78 was long and deep, but following that period, after many decades of isolation, Portugal asserted itself as a more integrated economy with a structure similar to that of its European neighbours.

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(For a more comprehensive list of sources, refer to the methodological note)

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8. The last agricultural recession: 1951–1953

PEAK: 1951 | TROUGH: 1953 | LENGTH: 2 YEARS

Summary

Portugal entered the post-war period as an economy still dominated by the primary sector. During the agricultural year starting in the autumn of 1952 and ending in the summer of 1953, production lows in the wine and olive cycles coincided with adverse weather shocks that reduced the productivity of other crops. These proximate factors are the dominant ones in this recession. At the same time, the slowdown in the global economy in 1952 reduced the exports that had been growing in the previous decade. This is the last Portuguese recession where agriculture is the main source of contraction. External factors already provide a complementary contribution.

Report

1. Context

Internal context

In 1951, the Portuguese economy still mostly consisted of agriculture. The primary sector accounted for one-third of GDP and employed about half of the workforce, while the services sector had seen little growth in the previous decade. The *Planos de Fomento* were an interventionist (and protectionist) effort by the Estado Novo to invest in industrialisation, which continued at an accelerated pace in the two decades following this recession.

In the post-war world order, the country timidly began opening to international trade as a founding member of the OEEC and NATO, receiving over $50 million (equivalent to $600 million at current prices) in direct and indirect aid from the Marshall Plan, between 1951 and 1952. Politically, the dictatorial regime was consolidated, and the powers of the government were strengthened after the constitutional revision of 1945.

External context

After the destruction caused by the war, Europe entered a phase of accelerated economic activity focused on reconstruction. With a high GDP growth rate and full capacity utilisation, unemployment rates remained historically low for many years. This led to a strong demand for raw materials in the late 1940s and early 1950s. The fear of a new military conflict surrounding the Korean War between 1950 and 1953 further increased the demand for raw materials such as cotton, aluminium, rubber, cocoa, and zinc. The prices of these goods peaked in 1951. High demand and supply constraints caused disruptions in the production process and motivated processes of economic integration aimed at removing trade barriers. In 1947, the GATT was signed to reduce barriers to international trade. The OEEC was established in 1948 (precursor to the OECD) to assist in the administration of the Marshall Plan. Finally, in 1951, the European Coal and Steel Community created a common market for scarce resources needed for the intense European reconstruction. Portugal participated in these movements, initiating the process of opening an economy that until then had been, for the most part, closed. However, between 1952 and 1953, international trade slowed down due to restrictive fiscal and monetary policies in several countries, aimed at dealing with external imbalances in the balance of payments, and the depletion of raw material stocks with the end of the Korean War.

2. Main indicators and proximate factors

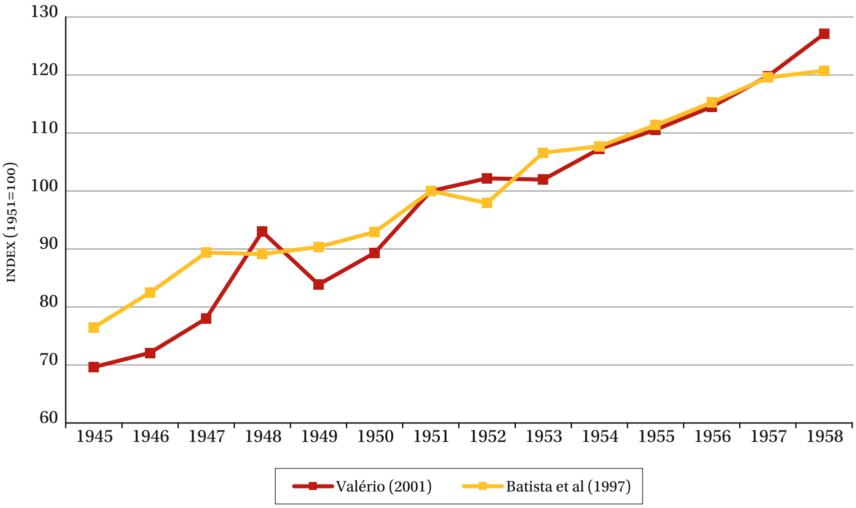
General indicators

There are two main GDP measures available for this period, as described in the methodological notes, which are shown in figure 1. In one of them, there is a decline in economic activity between 1951 and 1952; in the other, there is a prolonged stagnation that extends until 1953. Although this indicator points to 1952 as a candidate for a recession, it does not provide decisive dating of its peak and trough.

Considering the weight of agriculture in the economy during this decade — between 28% and 31% of GDP and 49% of employment — indicators for this sector are particularly relevant. In figure 2, the estimate for agricultural sector output shows a decline of about 20% in 1952. This decline was not accompanied by the other sectors, with stagnation only being visible in services in 1952, and in industry in 1953.

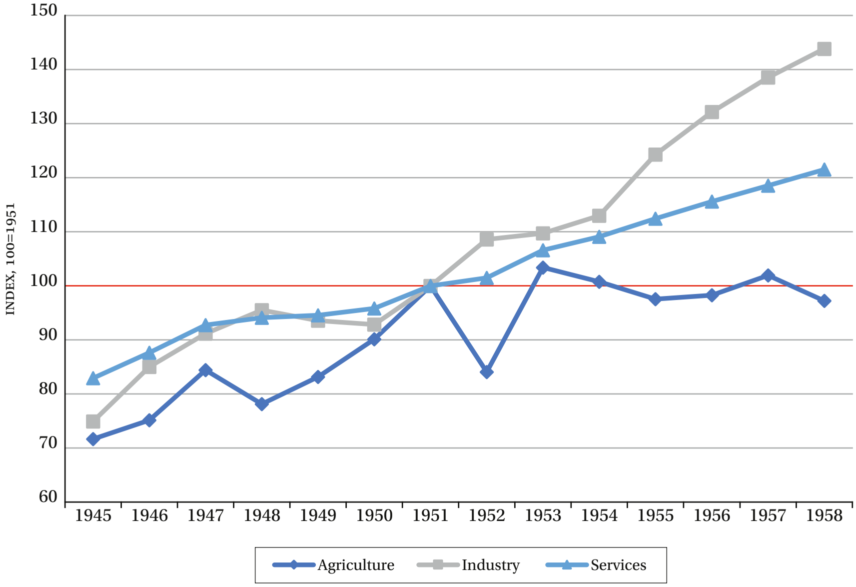
Reliable indicators for employment or unemployment are not available, but the deterioration in the living standards of rural populations can be detected through emigration data (although it is also an imperfect measure). The year of 1952 witnessed a significant rise in emigration, the largest in the 1945–1960 period, as revealed in figure 3. This increase is consistent with reduced demand for workers in labour-intensive activities in the agricultural sector at that time, such as olive harvesting, grape harvesting, and fruit campaigns. Emigration serves as an alternative for residents of rural areas who cannot find employment.

Figure 1. Real (aggregate) GDP according to two series



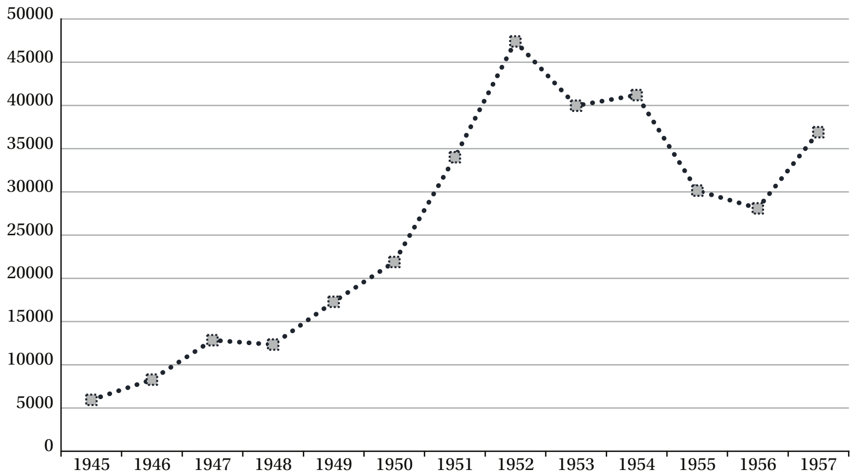
Sources: Batista et al. (1997): nominal GDP in Batista et al. (1997). Valério (2001): nominal GDP in Valério (2001), retrieved from Valério (1998). The implicit deflator of the respective source is applied to each series.

Figure 2. Evolution of sectoral (real) output



Source: Lains (2003), based on Batista et al. (1997).

Figure 3. Total estimated emigration



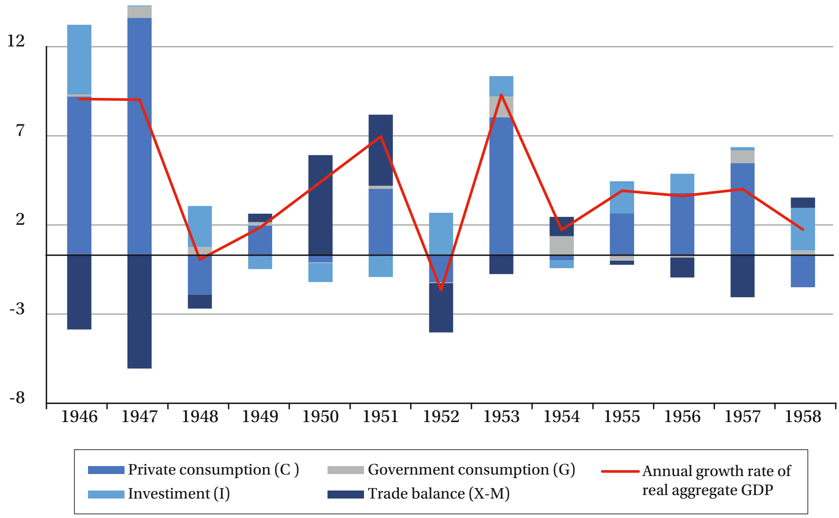
Source: Valério (2001), based on Beganha (1994).

Figure 4 shows that, from the expenditure approach, the decline in economic activity in 1952 was reflected primarily in exports, which fell by 13%, and in private consumption, which dropped by 5%. Imports increased by 3%, consistent with a shortage of domestically produced food due to the poor agricultural year. Conversely, investment grew during the recession, potentially due to the country's growing industrialisation. With half of the workforce employed in agriculture, the decline in consumption is also consistent with a poor agricultural year that reduced the income of large segments of the population. Imperfect data on rural wages show a nominal increase of less than 1% between 1951 and 1953.

Specific indicators

With imperfect general indicators, data on specific sectors that are relevant or particularly reliable play an important role in dating the cycle. The data on certain crops, which have a significant impact on production and exports, are particularly relevant. However, a difficulty arises from the dissociation between the calendar year that ends in December, for which all official statistics are presented, and the agricultural year, which not only does not coincide with the calendar year, but also varies from product to product. The data show a very poor agricultural campaign between the autumn of 1952 and the autumn of 1953, which partially affects the output of two distinct years but has less visible effects in annual data, because the crops in the previous and subsequent agricultural years were much better.

Figure 4. Composition of real aggregate GDP (expenditure approach)

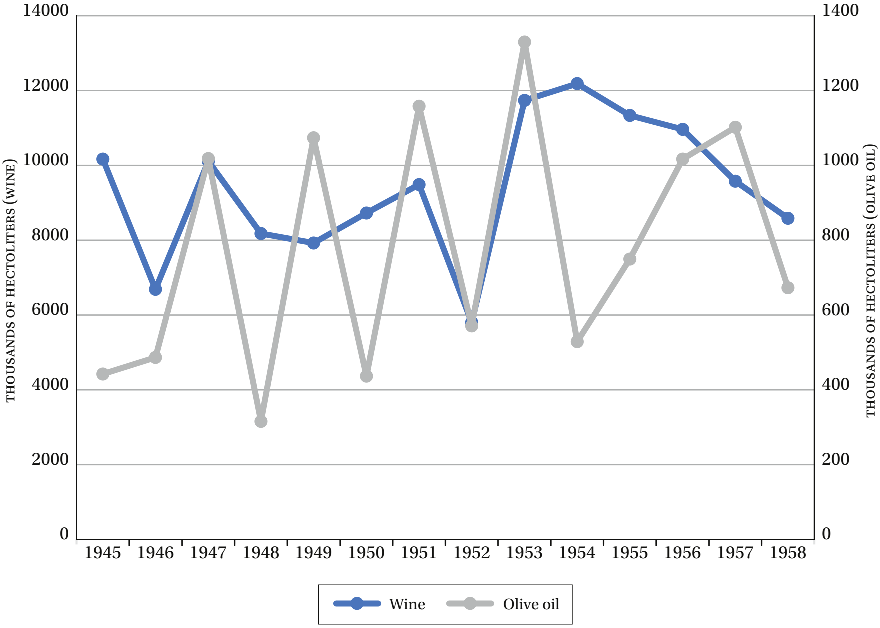


Source: Batista et al (1997).

Agricultural harvests. Two of the main crops in the Portuguese economy during this time were wine and olive oil. Wine production experienced a historic decline in the autumn harvest of 1952, halving compared to the previous year and returning to levels seen in 1940. The last quarter of 1952 marked the beginning of a year of poor olive production, with a 60% drop compared to 1951, which had recorded the highest quantity ever registered in Portugal. Figure 5 shows that the negative correlation between the production cycles of wine and olive oil, which occurred in 1952, was a rare event.

Although the negative correlation between the natural cycles of wine and olive oil alone could justify a poor agricultural year (as was the case, for example, in 1948), the magnitude of these declines was amplified by the weather conditions that also affected other crops. In most of the mainland territory, the autumn-winter of 1951–52 and the spring of 1952 were warmer than the historical average, which had an impact on the summer and autumn harvests of that year. Precipitation was also irregularly distributed, with heavy rains in October and March but relatively dry conditions in the period between these months. Even the agricultural year of 1953, which registered record olive oil production in its last quarter and some recovery in wine production, was marked by relatively dry and warm autumn and spring seasons in the previous quarters, which affected other crops.

Figure 5. Wine and olive oil cycles

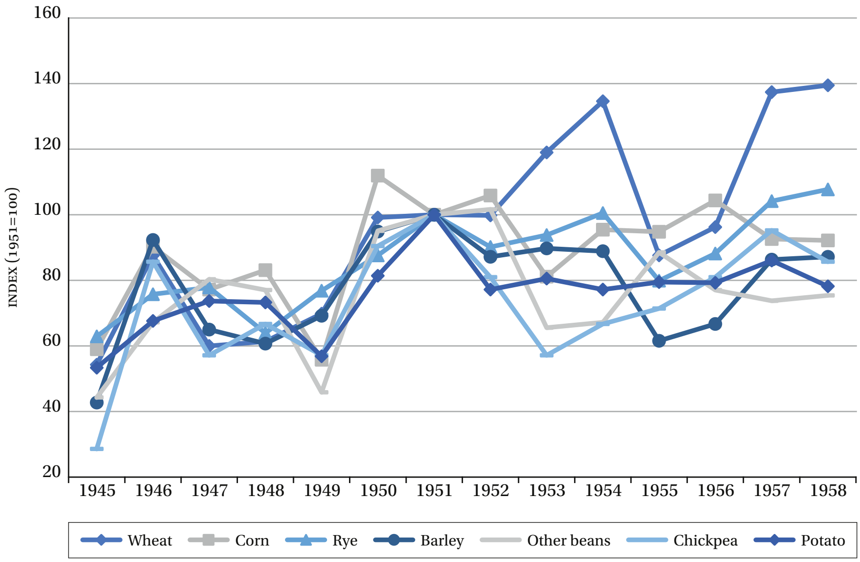


Source: Valério (2001).

Various cereal crop yields decreased in the agricultural year of 1952–53, with reductions of about 10% in rye and oat production and stagnant wheat harvests. Only corn production, as shown in figure 6, recorded an increase of about 6%. Weather conditions deepened the crop declines in the summer of 1953, affecting rye, oats and, particularly, corn and beans, which decreased by 23% and 43%, respectively, in comparison to 1952. Indeed, wheat is the only significant crop that showed substantial growth in 1953 (20%).

Almost all irrigated crops experienced reductions, including potatoes (20%) and fruit production. The same happened to almond, carob, and chestnut harvests. Additionally, livestock farming and the livestock trade were affected by some epidemics, leading, for example, to the prohibition of free movement of livestock on public roads for part of 1952. In summary, cereal, legume, and fruit harvests experienced slight to moderate declines in the 1952 harvest, which were further deepened in 1953 due to the weather conditions.

Figure 6. Agricultural harvests

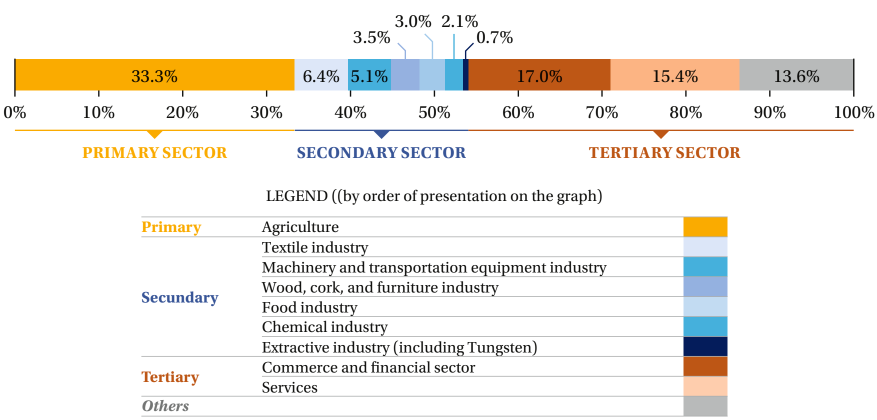


Source: Valério (2001).

Industrial production. In 1951, the industry sector accounted for nearly one-third of GDP, as shown in figure 7 (and 24% of employment). The industry sector presents better-quality data for some subsectors. Together with its typically more volatile and pro-cyclical nature, this sector is useful for more accurately dating periods of recession.

Extractive industries saw their output expand between 1951 and 1953, with an emphasis on tungsten, which experienced a slight increase in extraction, associated with high prices in international markets during a period of increased international demand due to the formation of NATO and the UN's involvement in the Korean War. As a result, its exports increased by 6% in quantity between 1951 and 1952, but decreased in the following year. Although the weight of the extractive industry in GDP was small in 1951 (0.7%), the export of tungsten extracted in national territory alone represented 7% of the value of exports in that same year. In fact, the beginning of the 1950s was the last (small) boom of Portuguese tungsten, which from then on became less relevant to national exports.

Figure 7. Sectoral decomposition of GDP — Main sectors (1951)



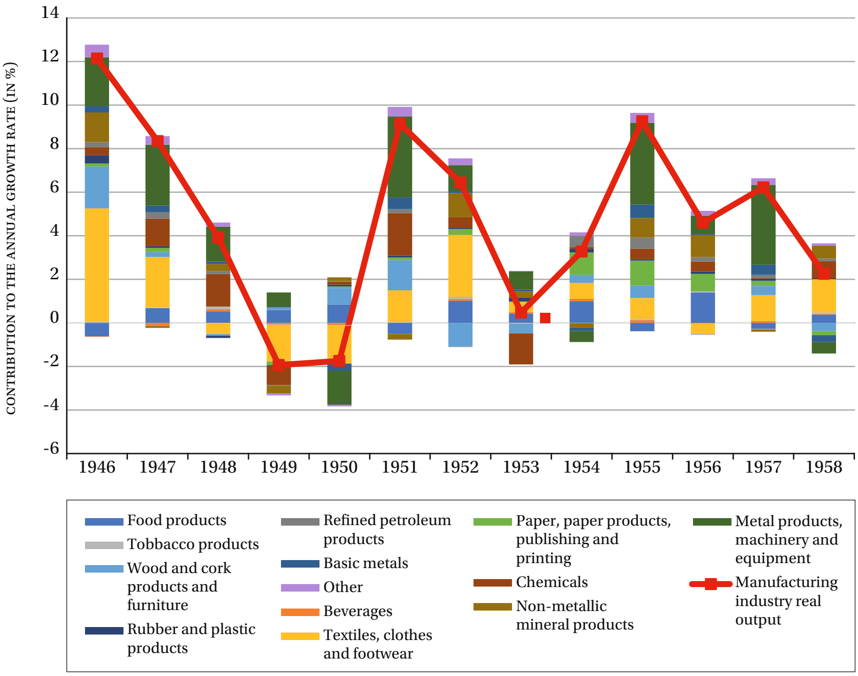
Source: Batista et al (1997).

At the same time, the manufacturing industries, which accounted for about a quarter of GDP, contracted during this period. As seen in figure 8, the industrial sector slowed down slightly in 1952 and more significantly in 1953. The production of food products stagnated. Canned food production decreased slightly, although its exports increased by 22% in 1952. The decline in production was associated with difficulties in importing metal for can manufacturing, while the Korean War brought the usual external demand for this national industry. Nonetheless, exports remained far below the peaks associated with other conflicts in the first half of the century, when this industry accounted for 22% of the value of national exports.

The growth of the textile and clothing industry slowed down significantly in 1953, putting a halt to the expansion observed in the previous four years. According to the news reports of the time, both production and exports were affected by adverse international conditions, including difficulties in importing raw materials and a reduction in external demand following the end of the Korean War. For several traditional industries, the period from 1951 to 1953 represented a phase of increased disruption in terms of raw material imports and the export of finished products.

International trade. Customs data are the most accurate at this time. Therefore, records of imports and exports allow us to discern the trends of the Portuguese economy. At the same time, the economy's limited openness makes these data less significant for a large part of the economy. Portugal was not part of the major international agreements signed in the immediate post-war period and, as such, did not benefit directly from them but rather indirectly through the expansion of trade, especially within Europe. National exports (and production) were growing at a high rate, with an emphasis on cork, textiles, and food products.

Figure 8. Decomposition of the variation in the manufacturing industry's output



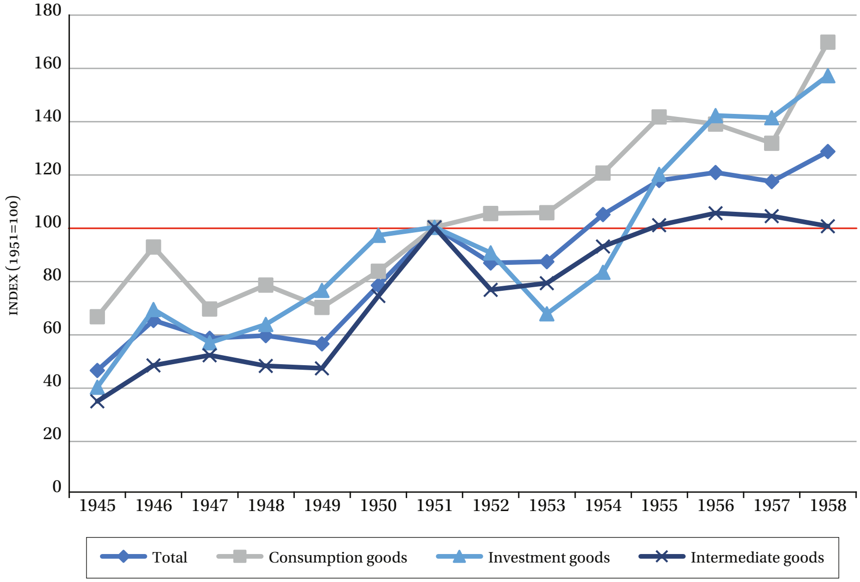
Source: Batista et al. (1997).

Figure 9 shows a significant decrease in exports in 1952, which continues in 1953, contradicting the overall growth trend of the surrounding decade (different data series vary in attributing this decline primarily to either 1952 or 1953). Intermediate and investment goods initially experienced the largest declines in 1952, followed by a general stagnation in 1953, which also affected consumer goods.

Looking at specific products, in 1951, wine and cork accounted for about 10% and 20% of total exports, respectively. The export of Port wine (which was the most significant) decreased by 22% in quantity in 1952, due to the contraction of sales to its traditional markets, the United Kingdom and France. Additionally, in 1953, the export prices of Port wine also declined, resulting in decreases in both quantities and revenue. In turn, cork exports experienced a reduction for the first time since the post-war period, with a decline of around 35% between 1951 and 1952, affected by the contraction in the economies of important trading partners. Even the elevated production of olive oil and wine in 1953 faced difficulties clearing the stock in international markets, with both wine and olive oil exports decreasing in value compared to 1952, according to reports from that time. In the other direction, canned food exports increased.

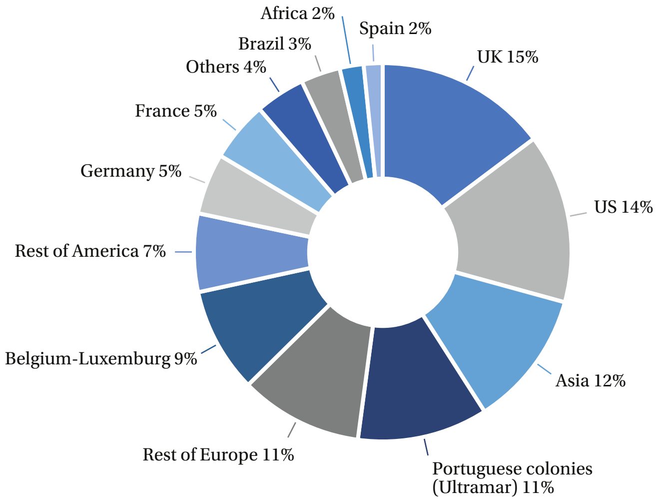
These developments indicate that the external environment was the source of an adverse shock. Figure 10 shows the composition of Portugal's main international markets. The United States and the United Kingdom found themselves in a recession in 1953, partly due to the slowdown in military expenditures following the end of the Korean War. Portuguese industrial production and, especially, the export-oriented cork and chemical products manufacturing industries, were affected by the reduced external demand in international markets.

Figure 9. Exports (quantities) by type of good



Source: Lains (2003), based on Batista et al. (1997).

Figure 10. Composition of exports by destination (in nominal value, 1951)



Source: Report from the Board of Directors of the Banco de Portugal, 1951.

3. Calibration of peaks and troughs

The Portuguese economy had been expanding since the post-war period, with an acceleration since 1948, particularly in agricultural output. The summer and autumn harvests of 1951 were reasonably good, as were industrial production and exports. In this context, the analysed indicators led the Committee to consider that economic activity was still expanding in early 1952.

However, the wine and olive campaigns in the second half of 1952, which were predominant in the rural economy at the time, contracted so much that they resulted in an overall decline in 1952. This arose from a negative combination of both crops' natural cycles, which are typically characterised by alternating years of higher and lower yields, aggravated by unfavourable weather conditions. Despite industrial output growth (though at a slower pace than in 1951), the weight of agriculture in employment, output and income was such that, in the Committee's view, it explained the sharp decline in private consumption observed in 1952. Moreover, there was a decline in exports, explained by the international economic environment, as several countries were implementing fiscal adjustments which reduced the dynamics of international trade.

The moderate drought of 1952–53 particularly affected the spring-summer harvests of 1953 (cereals, legumes, fruits), which prolonged the recession into that year. This was accompanied by a significant slowdown in industrial production in a scenario of stagnant international trade, leading the Committee to consider that at least the first half of 1953 was still marked by contraction. However, the exceptionally high production of olive and wine that occurred in the second half of the year, motivating continued private consumption growth in 1953, justified the Committee's decision to, in its annual dating methodology, determine the turning point of the business cycle as having occurred in 1953, marking the trough of this recession.

4. Conclusion

As in previous decades, it was the cycles associated with agriculture that determined the business cycle in Portugal. The country still had a profoundly agricultural economy, particularly in terms of employment, but also in production and exports. Therefore, a year of poor olive harvest, weak grape harvest, and cereal crops being affected by adverse weather conditions, were the main immediate causes of the 1951–53 recession. The unusual coincidence of these phenomena led to multiple productions of key products being affected *simultaneously*, resulting in a widespread contraction of economic activity. Above all, this was still an agricultural recession, as most of the previous ones had been. However, it has two particularities: on one hand, given the structural evolution of the weight of agriculture, this would ultimately be the last distinctly agricultural recession; on the other hand, the increasing openness of the economy to international trade brought the influence of external factors, which became increasingly relevant for Portuguese business cycles. Both deserve final consideration.

Recessions generated by the agricultural cycle become increasingly unlikely from now on. If in 1945 agriculture employed 52% of the active population and accounted for 31% of GDP, by 1980 the weight of agriculture in employment had already dropped to around 20%, and to about 11% in output. Overall, industrialisation, production diversification, openness to foreign trade, and technological progress had contributed to breaking the causal link between poor agricultural years and recessions, which, in the Committee's opinion, occurred in Portugal for the last time in the agricultural year of 1952–53.

Finally, Portugal had escaped the destruction of World War II, as well as the Spanish Civil War. In economic terms, it did not suffer significantly from these conflicts because it was still a closed economy and not very sensitive to contractions in exports. In the post-war period, the Portuguese economy began an industrialisation process and started opening to international trade, following the pattern of small Western open economies. Since 1945, export growth was remarkable — continuously increasing from 5% to 8% of GDP in 1951 —, a trend that continued in the following decades. The 1951–53 recession was, therefore, the first to partially reflect one of the main recessive factors in open economies: the evolution of external demand. This factor becomes much more significant in future recessions in Portugal, in which external factors are an important source of shocks.

9. Recessions of 1939–1945: agricultural cycles in a wartime economy

PEAK: 1939 | TROUGH: 1940 | LENGTH: 1 YEAR
PEAK: 1944 | TROUGH: 1945 | LENGTH: 1 YEAR

Outline

The volatility of agricultural cycles, the dynamics of the wartime economy (including rationing and obstacles to international trade), and Portugal's neutrality in the conflict, made this period unique when compared to other countries at the time, or to other periods in Portuguese economic history. The onset of World War II coincided with a poor agricultural year in 1939–40. Afterwards, the country experienced strong growth during the conflict, with real GDP expanding somewhere between 19% and 30% in the period from 1940 to 1944, partly due to exports to the warring powers, especially of tungsten, which resulted in a historic trade surplus in 1942. International pressure led to the termination of tungsten exports in 1944, which, combined with the longest recorded drought in mainland Portugal (between 1943 and 1946), contributed to a recession in 1944–45.

Report

1. Internal and external context

The period from 1939 to 1945 was marked by World War II and its impact on the global economy. Portugal remained neutral in the military conflict, despite several attacks on Portuguese vessels in the Atlantic and the occupation of Timor (first by the Allies and then by the Axis). The country kept trade relations with both sides of the conflict, but disruptions to international trade and shortages of goods were acutely felt, although to a lesser extent than in World War I.

In terms of direct trade relations with the belligerents, a notable agreement was reached in July 1940 between the Banco de Portugal and the Bank of England, with Portugal providing unlimited credit, and a grace period until the end of the conflict, for British purchases of Portuguese goods. The balance of that credit account amounted to around 80 million pounds sterling in 1945. Exports of tungsten (with its primary ore mineral wolframite) were also significant, but in June 1944, under diplomatic pressure, Portugal completely ceased the (official) export of this mineral to both sides.

Monetary policy targeted a fixed exchange rate against the dollar (1 dollar per 25 escudos), and prices were stable before the war. Following the guidelines of the gold standard, and mimicking what was happening in the United States, monetary policy between 1939 and 1945 was expansionary: the money supply in circulation grew by 300%, and the Banco de Portugal's discount rate continuously dropped from 4% to 2% (the lowest value of the century). Inflation was high, resulting in negative real interest rates throughout the period, but bank deposits grew in line with the money supply. At the end of the conflict, deposits in the national banking system significantly decreased, and there was a fear that a deflationary shock would trigger a recession. The Banco de Portugal responded by reducing the gold or foreign exchange backing of banknote issuance from 100% to 50%, and by implementing other restrictive policies to control inflation (Amaral, 2018). Unlike what had happened in World War I, prices returned to pre-war stability levels, especially after 1947.

Fiscal policy maintained its previous goal of balancing public accounts. However, this was put to the test during this period, with the public deficit reaching 1.4% of GDP in 1945, the highest deficit of the Estado Novo regime. On the expenditure side, real military spending increased by 60% during the conflict (Silva Lopes, 2005), as a result of sending military contingents to Cape Verde, the Azores, and Madeira. On the revenue side, there was a significant decline in customs revenue due to the reduction in imports. To address the situation, three extraordinary taxes were introduced: an additional tax on labour income, a tax on exceptional war profits, and a tax on tungsten exports. Between 1939 and 1944, the stock of public debt in circulation increased by 30%, with most of the bonds bought by the banking system.

Finally, in terms of economic policy, following the Economic Reconstitution Law of 1935 and its ambitious public investment plan, three important complementary laws were published between 1943 and 1945: the law on capital nationalisation, requiring that 60% of the capital of firms promoting projects of fundamental interest be Portuguese-owned; the electrification law; and the industrial development law. Among the announced projects were the Castelo de Bode dam, the construction of over 8,000 schools (*Plano dos Centenários*), and the building of over 40,000 kilometres of roads, tripling the national road network. However, war constraints led to the postponement of most of these investments until after the conflict.

They played an important role in the surge of public investment that, in 1945, contributed to preventing a recession in Portugal following the end of the war.

2. The three sources of shocks to the economy

Supply restrictions

Between 1939 and 1945, in the context of a wartime economy, there were significant obstacles to importing consumption and investment goods that were essential for the Portuguese economy. Importing was especially challenging, and maritime transport was interrupted, affecting all supply chains. Imports of certain raw materials, which were scarce in international markets and whose prices had skyrocketed, became subject to prior government authorisation, while imports of automobiles and luxury items were officially suspended. Simultaneously, measures were put in place to restrict the exports of essential goods, such as tin, tar, certain chemicals, butter, or cheese.

The scarcity of goods led to a rationing policy that affected the country's living conditions. Rationing of fuels was particularly noticeable; for example, starting from the summer of 1941, the circulation of automobiles were prohibited for three days a week. In trade, codfish, olive oil, soap, oil, and sugar, are examples of products that were subject to rationing, imposed through a quarterly coupon system. Simultaneously, the prices of milk, codfish, and other essential products were administratively controlled. In urban areas, authorities once again allowed the rearing of poultry and rabbits in backyards, balconies, and courtyards.

Rationing intensified as the conflict prolonged. From March 1942 onwards, electricity and gas were rationed throughout the country. In Lisbon, coal consumption was restricted during the cold winter of

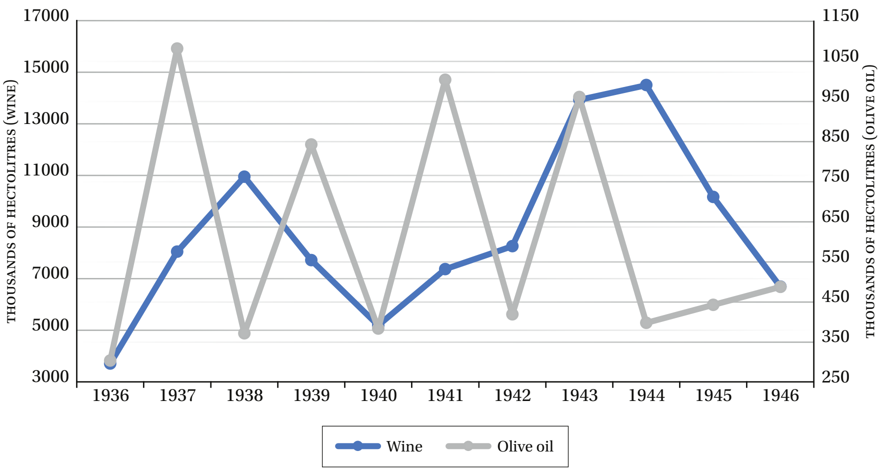
1944–45. In the final months of the conflict, a quarter of the locomotives of railway companies were out of service due to fuel shortages. Additionally, between late 1942 and early 1943, there were records of strikes in public transportation and industrial areas in Lisbon and Almada-Barreiro, as well as in the industrial centres of São João da Madeira and Silves. With the end of the conflict, rationing measures were gradually lifted in the following months. By November 1945, the press already reported normal fuel availability and significant price reductions at petrol stations.

Weather and poor harvests: 1940, 1942 and 1944–45

During this period, the agricultural sector accounted for 33% of GDP and employed 53% of the workforce. In 1940, an off year in olive production coincided with a poor viticultural year due to late rains and some pests. As shown in figure 1, olive oil production decreased by 54% compared to the previous year, and wine production fell by 32%.

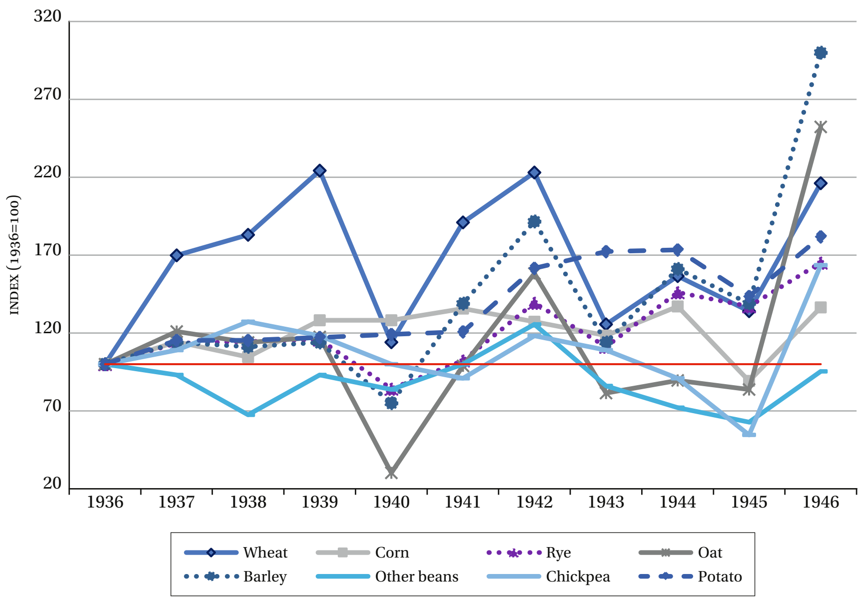
The cereal campaigns of 1940 were also poor, associated with late rains that damaged the crops. As shown in figure 2, the wheat harvest in 1940 fell by 50% compared to the previous year and by over 60% compared to the historical harvest of 1934. The agricultural policy response consisted of an increase in subsidies for wheat production and the availability of credit lines for the mechanisation of the production process in the subsequent campaign. In 1940, oat, rye, and broad bean production also experienced 74%, 25% and 50% declines, respectively. Cereal production remained volatile in the following years, with a recovery until 1942, followed by a decline until 1945. However, there was no growth trend for any crop, which may be explained by the lack of imported fertilisers and higher quality seeds, which had been introduced in the previous decade.

Figure 1. Wine and olive oil cycles



Source: Valério (2001).

Figure 2. Agricultural harvests



Source: Valério (2001).

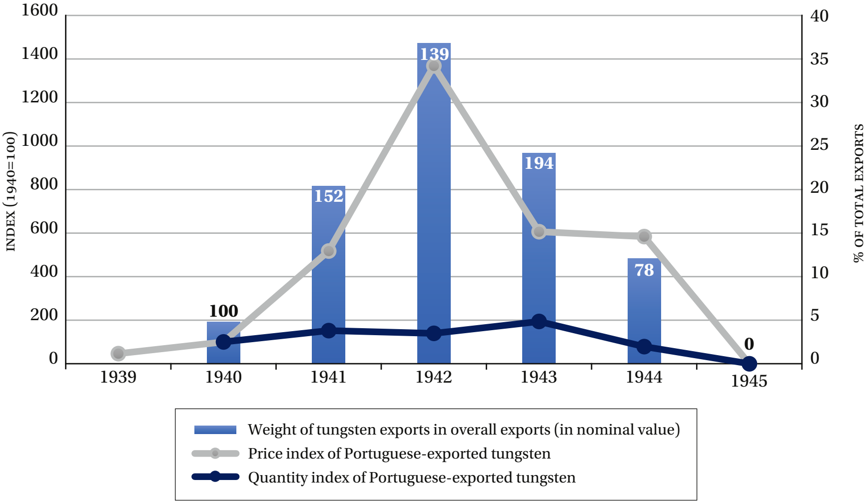
As for the weather, the winter of 1941 had severe storms, most notably the cyclone on February 15, which caused hundreds of deaths and injuries throughout the country, particularly in the Tagus Valley. Violent gusts and floods destroyed homes, forests, and crops across the country, with reports of damage in Ribatejo, Coimbra, Minho, and the Algarve. Several vessels were also lost along the coastline.

Wine production stagnated between 1941 and 1942, although there was significant regional variation. In addition to natural factors, there were difficulties in importing pesticides and fungicides. Olive oil production, which was one of the most important harvests, dropped by 58% in 1942 compared to the previous year. Although olive oil exports had been restricted since the beginning of the war, the authorities purchased the entire national stock of olive oil at a fixed price in the last quarter of 1942, seeking to ensure its regular supply. In cereals, the production of rice and corn decreased by 12% and 6%, respectively, but in 1942, wheat production reached its highest level since the peak of 1939.

Exports and the Portuguese tungsten boom: 1941–44

Between 1941 and 1944, there was an historic boom in Portugal's tungsten production and exports, depicted in figure 3. In January 1942, the first official supply contract was signed with Germany, stipulating the supply of 2,800 tons per year. The trade agreement with the Allies in September 1942 provided for a volume of 4,000 tons per year. Both agreements were revised successively during the conflict.

Figure 3. The Portuguese tungsten «boom»

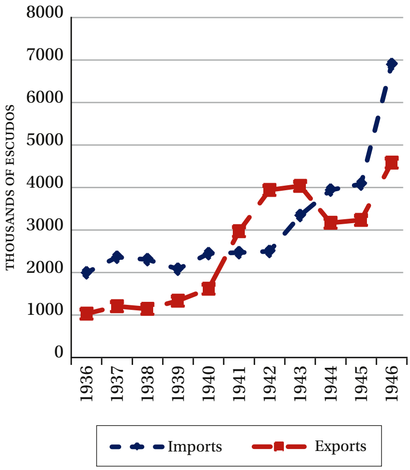


Source: Nunes (2010).
Note: only official exports of tungsten.

In 1942, tungsten ore, which was previously of little significance in national exports, was sold at an average price that was 32 times higher than in 1938 (Banco de Portugal). In 1940, there were 324 mines where tungsten could be extracted, a number that reached 746 in 1944 (Institute of Mines). Between 1939 and 1944, Portugal accounted for 10.5% of the total volume of tungsten traded globally, being by far the largest producer in continental Europe (Nunes, 2010). In terms of quantity, the approximately 3,400 tons exported in 1940 grew to nearly 6,700 tons in 1942. This was the peak of the tungsten boom, with the mineral representing almost 40% of national exports in value (Nunes, 2010). State control was strong, particularly in foreign trade, where significant export duties per kilogram were established, and crackdowns of black-market activity were enforced.

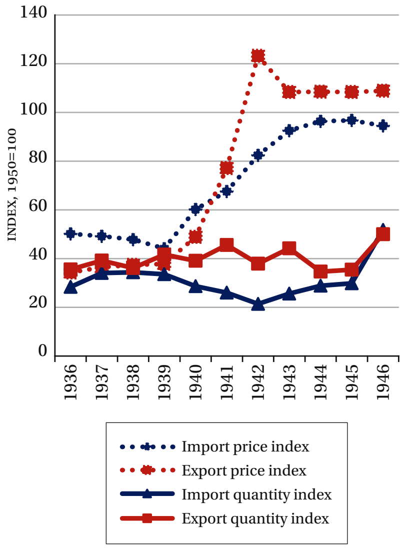
The period from 1941–1943 constituted a historical exception in Portuguese foreign trade due to the surplus in the balance of trade and Portugal's role as a creditor to the United Kingdom (figure 4). Without tungsten, the Portuguese trade balance would likely have seen its negative balance worsen. Private consumption may also have benefited from the income generated from the sale of tungsten, whether legal or clandestine. The decision to interrupt the legal trade of this mineral in June 1944 resulted in a significant contraction of the trade balance, which returned to chronic deficits in 1945, imposing a sharp decline in the national economic dynamics during the war. Since the (now illegal) tungsten trade continued, the declines in the trade balance and production were probably not as significant as indicated in official statistics.

Figure 4. Foreign trade — Nominal value



Source: Valério (2001).

Figure 5. Foreign trade — Index



Source: Lains (2003).

In terms of quantities, Portuguese foreign trade generally contracted during the 1939–1945 period (figure 5). Individual prices were highly volatile. In terms of imports, in 1942, gasoline imported by Portugal had increased by 206% compared to 1938, agricultural fertilisers had become 80% more expensive, and cotton had increased by 96% (during the same period). On the export side, between 1938 and 1942, cork prices increased by 110% to 205%, wines by 78%, and canned fish by 50% to 80% (Banco de Portugal, 1942). However, without maritime transportation, cork and port wine, two of Portugal's main exports, faced difficulties in finding markets, hence reducing their contribution to the trade balance.

3. Calibration of peaks and troughs

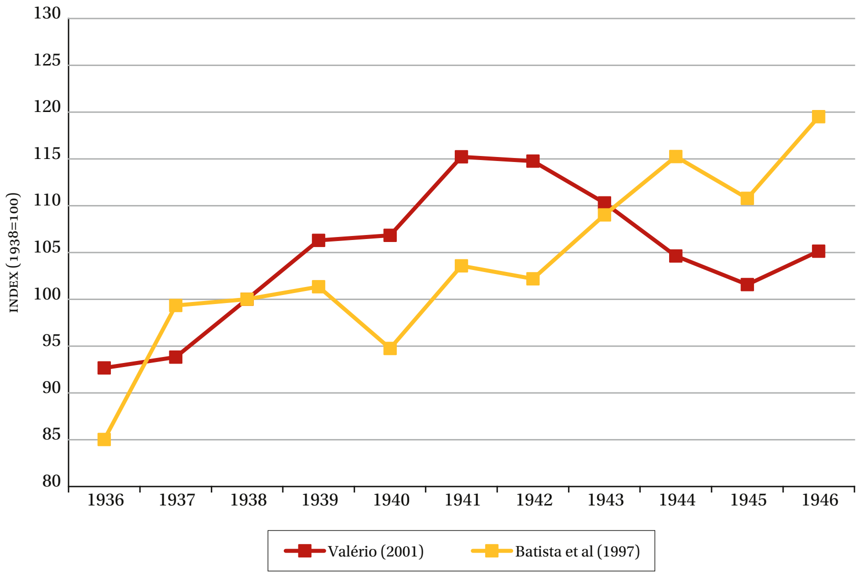
The business cycle during this period has unique characteristics with parallels only during the First World War. This is a result of the consequences of a wartime period, with its limitations on international trade, volatility in commodity prices, rationing, as well as several poor agricultural years and the exceptional boom in tungsten exports.

The beginning of external restrictions and rationing coincided with a poor agricultural year in 1939–40, making 1940 a trough year. GDP fell by 6% that year, according to one series, halting a period of fast growth in the previous two years, according to the other (figure 6). Almost all the decline came from the agricultural sector, confirming the agricultural origin of this recession (figure 7). In turn, the breakdown by expenditure shows that the major portion of this recession lies in consumption, which is consistent with rationing (figure 8). In 1941, the start of the tungsten boom and the recovery of harvests contributed to quickly end this recession.

Although economic activity slowed down in 1942, there was not enough co-movement among the main sectors, or within the agricultural sector, to confirm a recession. In cereals, only rice and corn seemed to suffer significant declines, which coincided with a year of lower olive production. On the other hand, the important wheat, oat, and rye crops saw increases in production. Wine production, which had a significant impact on the economy at the time, increased slightly. The exceptionally high external trade surplus, led by tungsten, played a decisive role in preventing a recession in Portugal in 1942.

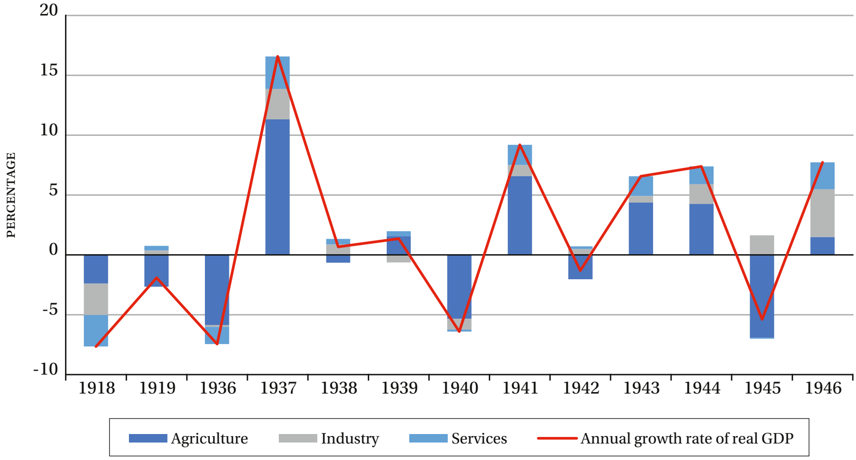
However, the armistice in continental Europe in 1945 led to a new (short) recession in Portugal, with a trough in 1945. The end of tungsten exports imposed in 1944, due to external political pressure, terminated an important source of revenue for the country. Additionally, between the autumn of 1943 and the spring of 1946, the longest drought on record occurred. Crops that were more dependent on irrigation, such as beans or corn, reached decade-low yields in the 1945 harvest.

Figure 6. Aggregate GDP according to two series



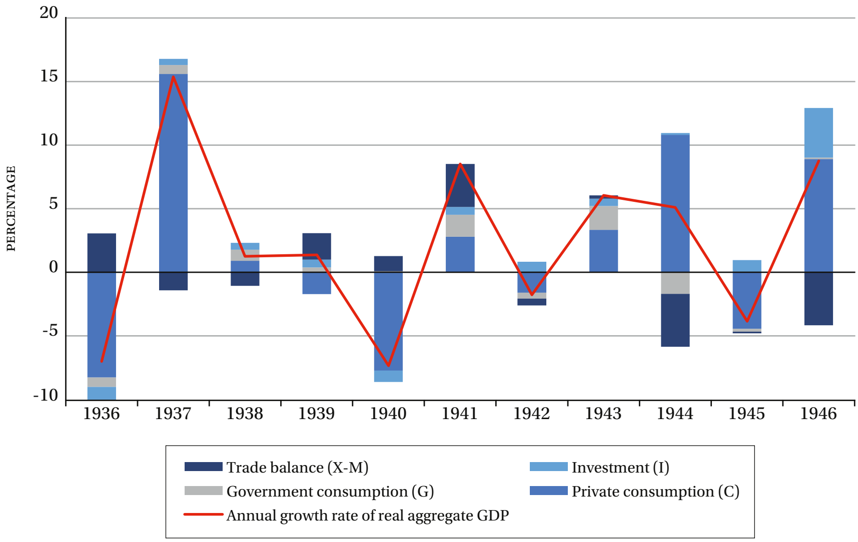
Sources: Batista et al. (1997): nominal GDP in Batista et al. (1997). Valério (2001): nominal GDP in Valério (2001), retrieved from Valério (1998). The implicit deflator of the respective source is applied to each series.

Figure 7. Composition of GDP changes (sectors)



Source: Lains (2003), based on em Batista et al (1997).

Figure 8. Composition of GDP changes (expenditure approach)



Source: Batista et al (1997).

In both series, GDP declined in 1945 (figure 6). Naturally, most of the GDP reduction was concentrated in the agriculture sector (figure 7). The production across different sectors was still unsynchronised, reflecting the nascent industrialisation of the country, which did not yet have sufficiently established market mechanisms to facilitate inter-industry co-movement. However, the decline in the extractive industry was offset by the expansion of manufacturing industries, so the overall industrial output positively contributed to GDP growth between 1941 and 1946. The Committee highlights that the recession was not deeper because investment recovered quickly, partly through public investment in various projects (under the Economic Reconstruction Law) that had been postponed but were relaunched in 1945. Their contribution can be seen in figure 8.

Similar to what happened during the First World War, the price level increased significantly, doubling during the conflict and thus following inflation in the US. However, keeping the dollar peg and the efforts in monetary and fiscal policy allowed inflation to stabilise immediately in 1945. Therefore, the nominal anchor in Portugal remained strong, contributing to the recession of 1944–45 not being prolonged, unlike what happened after the First World War, and even allowing for an economic expansion that would continue until 1951.

4. Conclusion

The Portuguese business cycle during World War II was simultaneously affected by the traditional factors related to the agricultural cycle, whose volatility typically dominated the business cycle, as well as by the vicissitudes of the wartime economy. Throughout the entire period, the strong contraction of foreign trade and the resulting shortage of essential products and materials, along with the rationing of many consumer goods, led to a difficult period for the population.

The hostilities began in 1939 and eventually coincided with poor harvests in 1940, causing the economy to enter a recession. Between 1940 and 1944, there was an expansion of production, with a decisive contribution from the trade balance surplus, driven by tungsten exports and the widespread increase in prices of exported goods. Agriculture also experienced good harvests, especially in 1941 and 1943. However, this expansion was not widespread across all sectors, and it did not lead to a clear improvement in living conditions, as it was constrained by limitations on the market economy (rationing, industrial control, capital controls) and the country's limited industrialisation.

However, starting in the autumn of 1943, most of the continental territory experienced a drought that worsened some of the harvests in 1944 and caused a more widespread and deep decline in 1945. At that time, Portugal no longer exported tungsten, which led to a new recession. Simultaneously, the boost from public investment in 1945 contributed towards a short recession, with a trough in that same year.

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(For a comprehensive list of the sources, refer to the methodological note)

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10. Recession of 1930–1939: the agricultural cycle in a closed economy

PEAK: 1934 | TROUGH: 1936 | LENGTH: 2 YEARS

Summary

The 1930s were a period of economic stability in Portugal in comparison to the previous decade and other Western economies. This stability was partly a reflection of the reforms implemented in the previous decade and the consolidation of the new political regime. Portugal was not heavily affected by the two major events that marked the Western world at this time: the Great Depression and the Spanish Civil War. The country remained isolated, not only due to its nascent industrial development but also by virtue of political choice. As a result, agricultural cycles were the main determinant of the business cycle. The drought of 1935–36, the negative correlation between the olive and wine cycles, and the aftermath of the «Wheat Campaign» led the country into a single recession in this decade, between 1934 and 1936.

Report

1. Context

Internal context

Politically, the 1930s were marked by the institutionalisation of the Estado Novo regime. The National Union emerged as the sole political party in 1930, the same year that the Colonial Act was promulgated. In 1933, the Constitution (which underwent a plebiscite) and the Statute of National Labour officially established the corporatist organisation of the regime.

The fiscal and monetary reforms of the 1920s provided stability and soundness to public finances throughout the 1930s. In 1931, there was a profound reform of the legal status and role of the Banco de Portugal. The escudo was formally included in the gold standard exchange rate system, fixing its convertibility to the British pound. When the British government made the pound inconvertible into gold, Portugal joined the sterling area, keeping the escudo close to parity with the pound throughout the decade. A law passed in 1935 reorganised credit allocation, imposing strong barriers to the entry of new financial institutions, which contributed towards the Portuguese banking market experiencing few changes until the 1970s.

Economically, the principle of import substitution prevailed. In agriculture, this doctrine of substitution translated into one of the most significant agricultural policy actions taken during the Republic: the «Wheat Campaign»; aimed at addressing the historical cereal deficit, which dated back to the late 19th century, by means of protectionist policies.

In the secondary sector, the industrial conditioning that had begun in the 1920s was gradually extended to most sectors throughout the

1930s. This involved a set of protectionist regulations that granted the government the power to authorise the opening of companies in each sector, the acquisition of technologies, or the participation of foreign entities in domestic firms. These regulations also encouraged the use of domestic raw materials. It was in this context, for example, that oil refinery and the industrialised production of bicycles began in the late 1930s.

A plan for public investment and expenditure, which would extend until 1950, was approved in 1935 (the Economic Reconstruction Law), focusing on the restructuring and rearmament of the Armed Forces and on economic development. About 60% of the allocated funds were dedicated to transportation (road and railway networks, ports, aeronautics) and to the modernisation of agriculture, while approximately 15% were allocated to school building construction, and the remainder distributed among telecommunications, public buildings, urbanisation, energy, and mining research. The implementation started in 1936–37, representing an increase of more than one-fifth in current public expenditure, and a quadrupling of annual public investment, on average, compared to the first half of the 1930s (Nunes and Valério, 1983). Most investments and expenditures would only be executed in the 1940s, although there was already a modest increase in total investment from 1937–40.

External Context

The Great Depression of 1929 and the contraction of international trade did not have first-order effects on the Portuguese economy through exports or imports because the country still had a relatively closed economy. In the northern part of the country, a small number of more internationally exposed banks closed their doors, but the financial sector in general had little sensitivity to international financial factors, except for remittances from emigrants. Equipment and transportation machinery industries, which were particularly affected in other economies, were still underdeveloped in Portugal. Thus, the main effects of the Depression on the balance of payments were felt in the sharp decline in remittances from Brazil, for example, due to capital controls in place there, in the significant decrease in emigration to all destinations, and in the reduction in prices of national raw materials in foreign markets.

Between 1936 and 1939, the Spanish Civil War turned the neighbouring country into a stage for a bloody conflict. From a political standpoint, Portugal remained neutral (although it provided facilities to nationalist troops). From an economic perspective, despite some impact on the border regions, Portugal and Spain were largely disconnected and would remain so for several more decades. Other countries like Brazil, England, or Belgium were more relevant to Portugal's external trade. The greatest economic consequence for Portugal from this conflict appears to have been the increase in exports, especially of cork, as the national industry competed with the Spanish industry for the same markets.

2. Main indicators and proximate factors

Agriculture

Agriculture accounted for 33% of GDP and 54% of employment, on average, during this decade. The main products were cereals, wine, and olive oil.

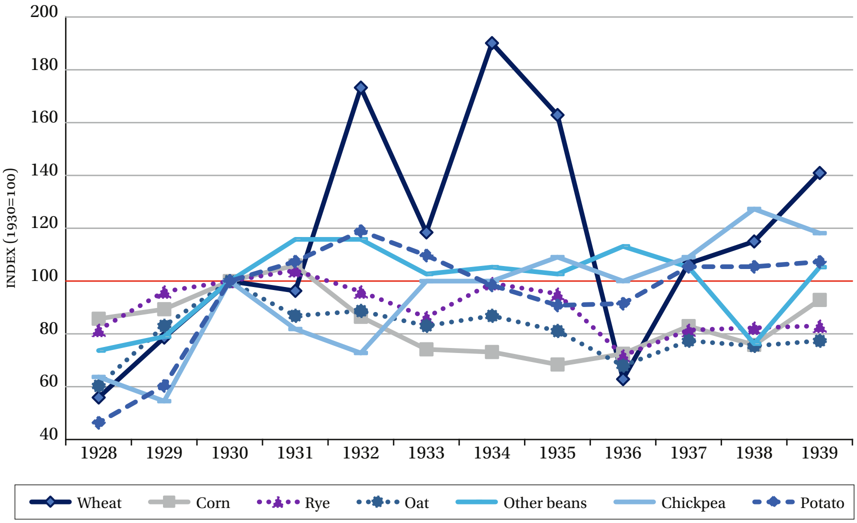
The «Wheat Campaign», planned in 1929 and implemented from 1931 onwards, had a significant impact on the production of the most important cereal crop in the country during the 1930s (figure 1). Its goal was self-sufficiency in the context of an import substitution policy. It aimed to significantly increase the cultivated area through incentives (production subsidies) and technological improvements (such as providing improved seeds). The government intervened in markets as well by guaranteeing the purchase of surplus production and by setting prices to reduce the risk for producers.

Between 1931 and 1934, there was an unprecedented growth in wheat production. This was mainly due to the expansion of land dedicated to wheat and, initially, to the increased productivity of the cultivated area, which almost doubled at that time (Soares, 2005). The subsidies and assured sale of all production reached not only large producers but also a significant number of medium and small-scale producers. However, in 1935–36, wheat production abruptly fell to the level of 1928 (prior to the reform). The reasons behind this full reversal are still the subject of discussion. An important contributing factor was soil degradation, showing that the productivity gains were illusory and compromised future agricultural suitability. The fragile fertility accumulated in previously uncultivated lands was exhausted within a few years of cereal cultivation. Another factor contributing to the production decline was a contraction in investment, suggesting an excess of installed capacity in previous years.

Between 1934 and 1935, wheat production remained high in the final successful phase of the «Wheat Campaign», but all other cereals (rye, oats, and corn) experienced significant declines due to the drought that also affected the wine industry. The meteorological year of 1935–1936 was even hotter and drier, further reducing viticulture production as well as cereal production in general. The end of wheat abundance, with the 1936 trough, coincided with decennial lows in rye and barley production, as well as reduced corn harvests (still 30% below the 1930 value). Therefore, no other significant agricultural crop compensated for the significant decline in wheat production.

During this decade, the wine output and olive oil output followed their natural cycle, with the former being mainly dependent on weather conditions and pest incidence, and the latter on the succession of harvest and off years. In 1932, 1935, and 1936, wine production decreased due to dry years (figure 2). In the last of these three years (1936), it coincided with an off year for olives.

Figure 1. Agricultural harvests



Source: Valério (2001).

Figure 2. Wine and olive oil cycles

Source: Valério (2001).

Industry

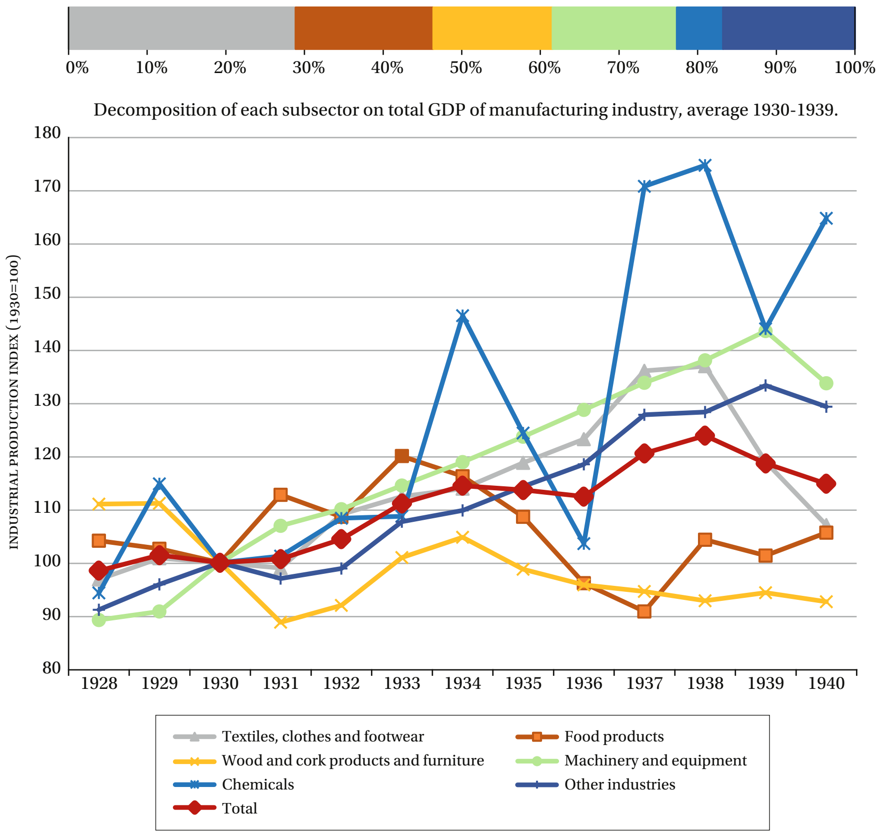
Industry remained secondary compared to agriculture in terms of its weight in the economy: it accounted for an average of 28% of GDP and 19% of employment during this decade. The productions of various subsectors showed mostly disconnected cycles. Thus, the chemical subsector experienced a significant contraction between 1934 and 1936 (figure 3), and the food industry (responsible for almost 18% of industrial output) remained in decline between 1933 and 1937. In the other direction, the most important national industry — textiles and footwear — experienced a decade of growth until 1938. Overall, the industrial production index peaked in 1934 and reached a trough in 1936, with a small contraction of 1.8% between them.

Changes in domestic production

Despite their limitations, the available GDP series, shown in figure 4, indicate a clear contraction between 1934 and 1936, followed by a very rapid recovery in 1937. As expected in an economy primarily reliant on agriculture, the fluctuations in GDP mirrored those of the agricultural sector (figure 5).

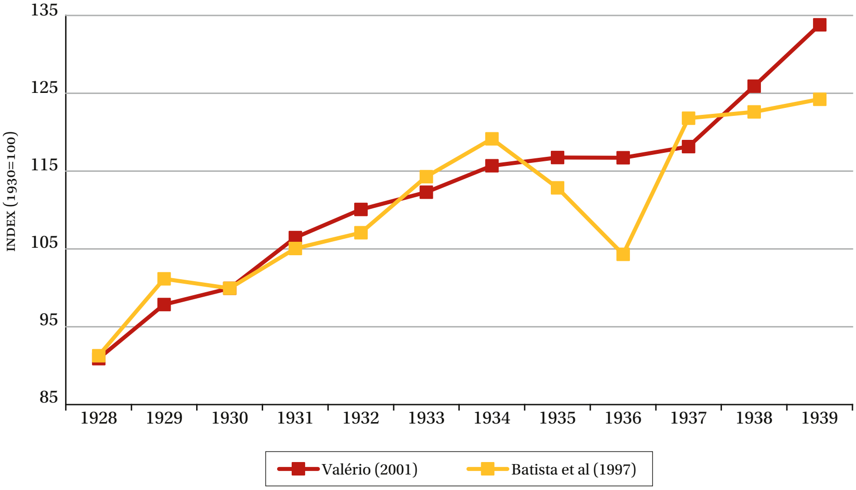
Looking at the components of GDP figure 6), private consumption and the trade balance moved in opposite directions in 1936, with trade helping to mitigate the recession. An important factor was the surplus of wheat harvest in 1935, which allowed for the export of this commodity in the first half of 1936 for the first time on record. Another contribution to the improvement of the trade balance was the substitution of imports with colonial goods at more favourable prices, such as coffee or sugar.

Figure 3. Manufacturing industry: weights in industrial production (average by decade) and production index (annual) of different subsectors



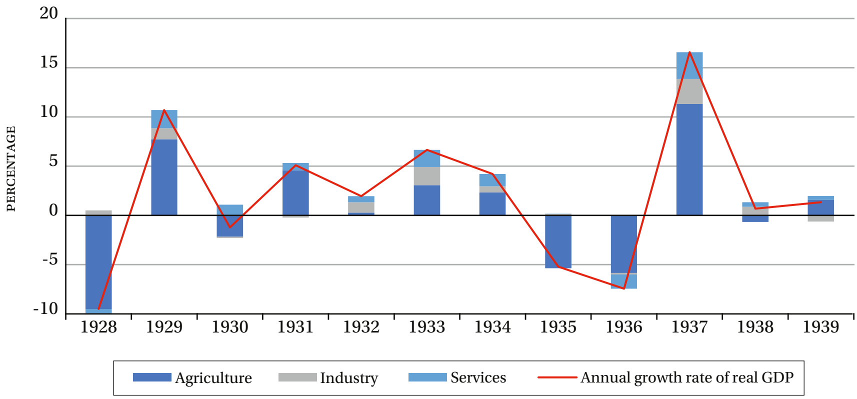
Source: Batista et al (1997).

Figure 4. Real aggregate GDP acording 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.

Figure 5. Composition of GDP changes (sectors)

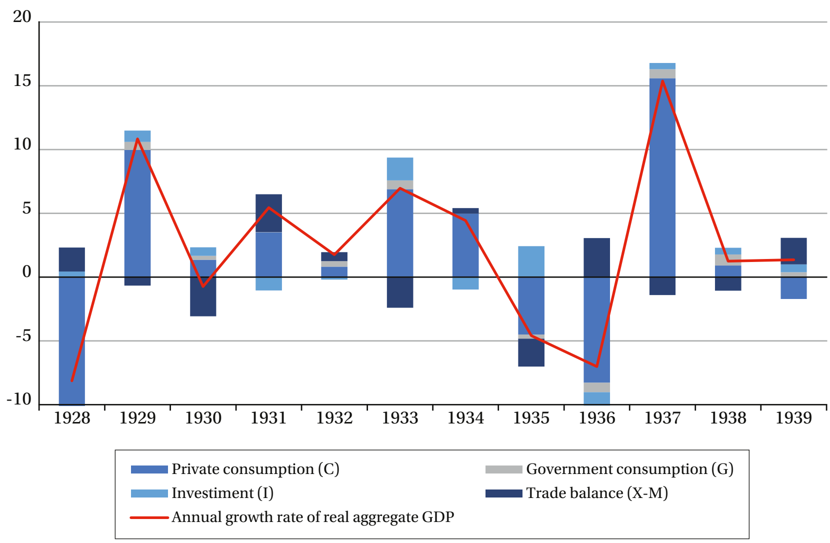


Source: Lains (2003), based on Batista et al (1997).

Finally, the cork industry, which represented about 15% of the value of national exports in its various forms, also experienced a small boom between 1935 and 1937. The domestic industry increased its exports at the expense of Spanish producers, who had been the world's main exporter until then. Portuguese cork exports grew by 3% between 1930 and the 1935–37 harvest, while Spanish exports declined by 16% during the same period (Dias and Moruno, 2006). Portugal established itself as the world's leading cork producer from this point onwards.

Throughout the 1930s, financial stability created a favourable environment for capital accumulation, which contributed to the increase in the investment rate. It averaged 11%, more than triple the value recorded in the 1910s (Lebre de Freitas, 2005), and without significant fluctuations that would contribute to the business cycle. In fact, from 1937 to 1950, with the implementation of the investments planned in the Economic Reconstruction Law, the contribution of investment to growth was consistently positive.

Figure 6. Composition of real aggregate GDP changes (expenditure approach)

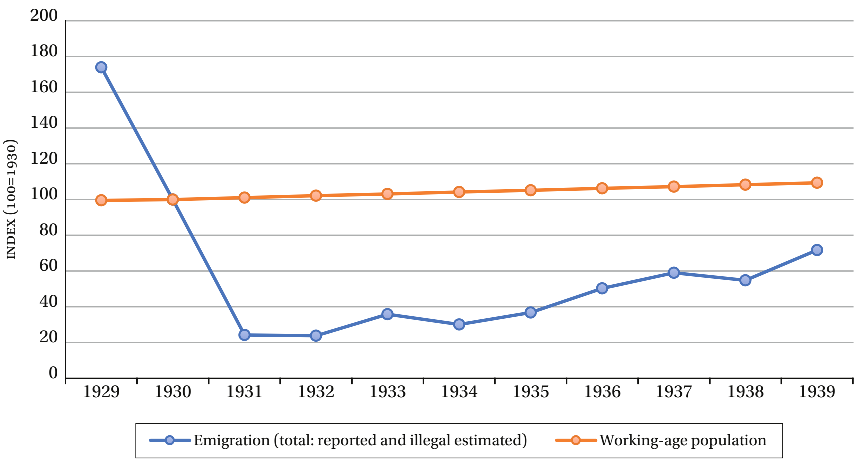


Source: Batista et al (1997).

Emigration

There was a significant slowdown in Portuguese emigration during this decade, resulting from the international situation, with border closures and a reduction in demand for labour, especially in the Americas, during the Great Depression (figure 7). In fact, the 1930s is the first decade of the century to record a positive net migration (intercensal) balance, only to be repeated in the 1970s and the 1990s. From 1931 onwards, fluctuations in emigration and the active population were reduced. The evolution of these indicators is sometimes associated with external factors. Other times, it reflects what is happening in the national economy, with emigration serving as an escape valve for the deterioration of the population's living conditions. Thus, the data indicates that this is a decade of relative economic calm in Portugal, contrary to what is happening in most other Western countries.

Figure 7. Emigration and working-age population



Source: Valério (2001), based on Baganha (1994).

3. Calibration of peak and trough

Given that the Portuguese economy was predominantly agricultural, the business cycle in the 1930s was strongly determined by the co-movement of wine, olive oil, and cereal production. Each crop had its own factors and cycles, but it is the negative association among them that accurately calibrates a typical agricultural recession.

Therefore, the year of 1935 marks the onset of the only recession in this decade, according to the Committee's analysis. Wine production at the end of the year, as well as cereal production in the summer, experienced significant declines that were not offset by the modest increase in olive oil production. This situation worsened in 1936, as the 1935–1936 meteorological year was especially hot and dry, leading to a more intense reduction in cereal and wine production, along with a poor olive harvest. Thus, the Committee concluded that the Portuguese economy went through a recession for a significant part of 1935 and the entire year of 1936.

Considering the predominantly agricultural nature of this recession, the Committee noted that it closely followed the agricultural cycle rather than the annual cycle. Therefore, the peak of economic activity was most likely in the first half of 1935, with the harvests in the second half of the year causing a turning point in the cycle. The recession, in turn, persisted until the first half of 1937 when the spring/summer crops were more abundant. In the subsequent years of recovery, public expenditure and investment played a significant role, particularly in driving the growth of 1938 and 1939.

4. Conclusion

Portugal experienced relative economic stability during the 1930s, thanks to the consolidation of the political regime and the country's isolation from the outside world. This is surprising considering the large volatility of the global business cycle during this decade and Portugal's proximity to Spain, which was going through one of the most turbulent decades in its history. This can be attributed to Portugal still being a relatively closed economy and Spain not being a significant trading partner. In fact, it was only after the end of World War II that the global business cycle would have a significant impact on the Portuguese economy.

The recession of 1934–36 can be attributed to three factors. First, the diminishing short-term effects of the «Wheat Campaign», with the exhaustion and erosion of newly cultivated soils and the end of surplus wheat production. Second, unfavourable weather conditions for most crops during the meteorological year. And third, a year of poor olive production.

As with other occasions in the Portuguese business cycle, perhaps none of these factors alone would have induced a recession. For example, 1933 was a year of some drought, which resulted in declines in cereal production but not in olive oil or wine production. The Committee considered that there was insufficient co-movement among the relevant (agricultural) sectors to date a recession solely based on that factor. It is worth emphasising that it is the combination of factors, all associated with agricultural production, that shaped this recession.

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(For a comprehensive list of the sources, refer to the methodological note)

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

PEAK: 1923 | TROUGH: 1924 | LENGTH: 1 YEAR
PEAK: 1927 | TROUGH: 1928 | LENGTH: 1 YEAR

Summary

These eleven years were at first characterised by the aftermath of the negative effects of the Great War on supplies, the explosive inflation, and the skyrocketing public deficits. The stabilisation of public finances and the normalisation 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.

Report

1. Context

This period, which was over a decade long, was turbulent from both a social and political perspective. 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 stabilisation of the Armed Forces by General Óscar Carmona and the rise of Oliveira Salazar to power that social and political instability diminished.

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 the aftermath resulting from 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 naval 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 monetisation 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 behaviour and to policies that attempted to respond to this social pressure by fixing prices. As early as 1919, the government subsidised 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 monetisation of deficits, there was uncertainty regarding the country's ability to honour 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.

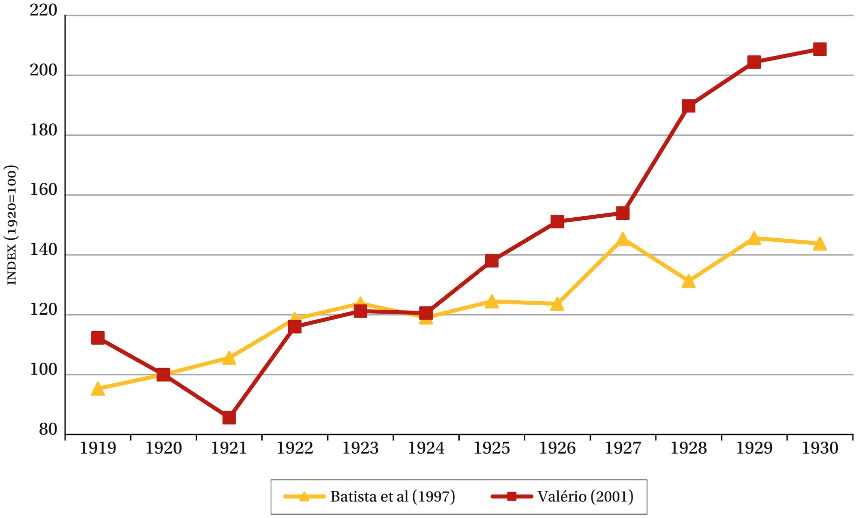
Finally, between 1919 and 1921, the country experienced a peculiar period of instability in the national financial system. Many banks opened and ceased operations, sometimes within a few months. Part of this frenzy was associated with the influx of foreign currency and the volatility of wine and cork 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 GDP per capita 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 only suggests a contraction of GDP in 1928, the other points to a contraction between 1919 and 1921.

Figure 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 dominated 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 stabilisation, 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 Portuguese escudo depreciated as much as the Brazilian real had in its five centuries of existence.

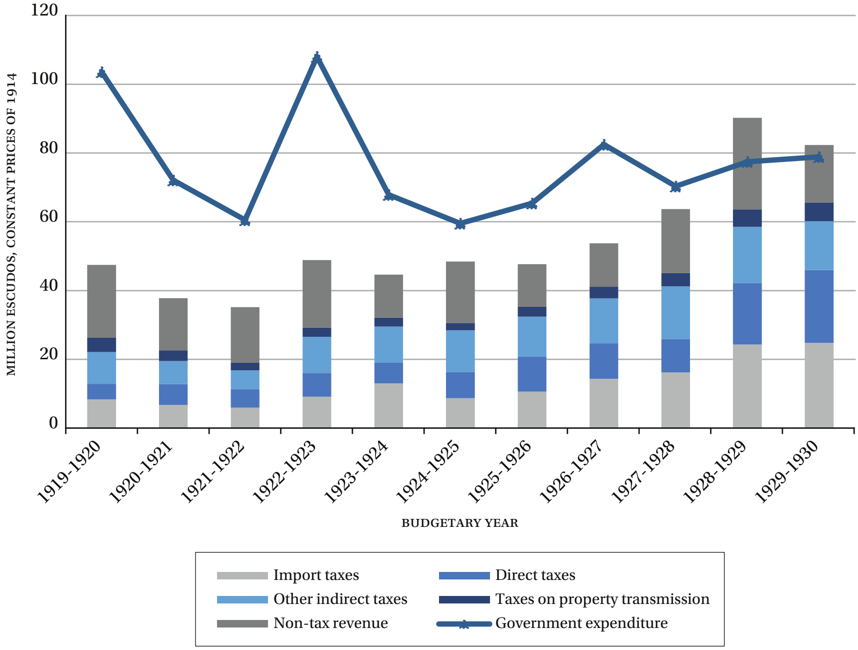
The immediate cause of this inflation was the monetisation of public deficits by the central bank. The money supply in circulation increased from 114 million escudos in 1914 to 536 million escudos in 1920, and then to 1,586 million escudos in 1924 (Mata and Valério, 1993). Despite this rampant inflation, the interest rate set by the Banco de Portugal never exceeded 9%. Attempts to impose a mandatory official exchange rate failed, leading to a considerable black market instead.

Behind this monetisation 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 steep 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.

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

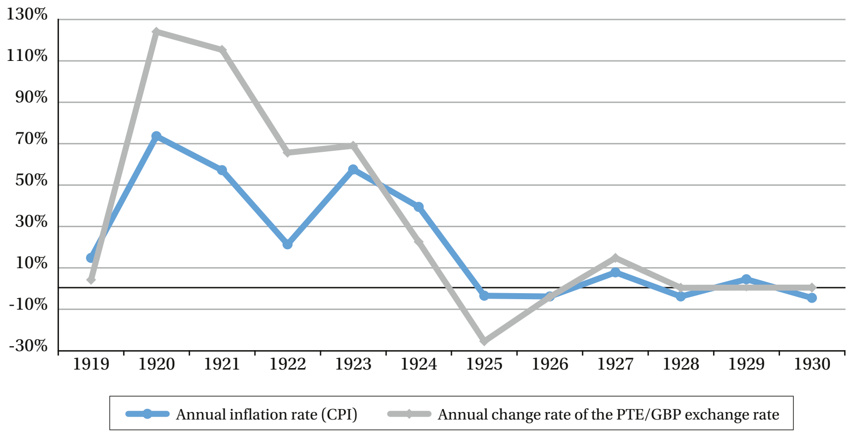
With this rapid stabilisation of inflation came stability in the exchange rate (figure 3). This reduced one of the main difficulties faced by the country: the payment for wheat imports, which affected bread production and had been a source of significant social instability in previous years. To consolidate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

Figure 2. Evolution of government revenue and expenditure



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

Figure 3. Inflation and exchange rates



Source: Valério (2001).

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

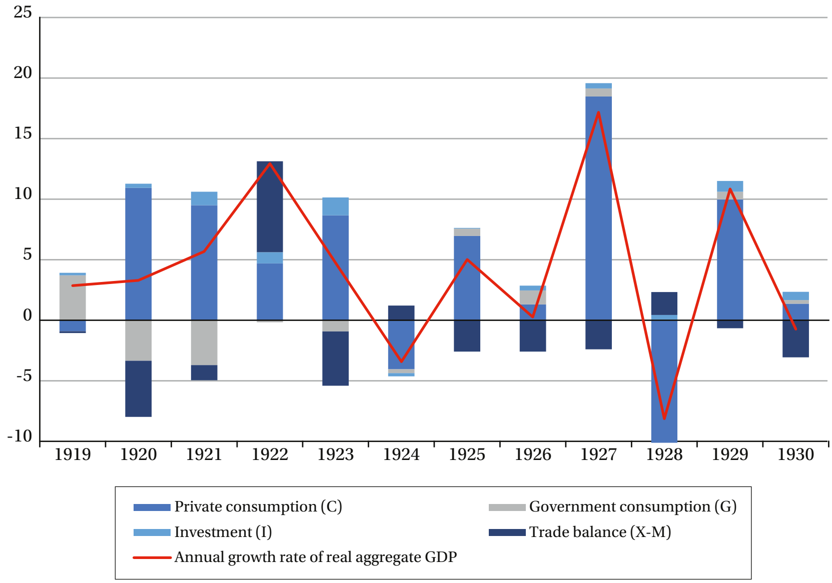
The effects of fiscal and financial stabilisation are also seen in the breakdown of GDP in figure 4. In 1924 and 1926, the contraction imposed by fiscal measures and the return to positive real interest rates were reflected in a slowdown in private consumption expenditure, which then surged in 1927–29. 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.

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 primary 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.

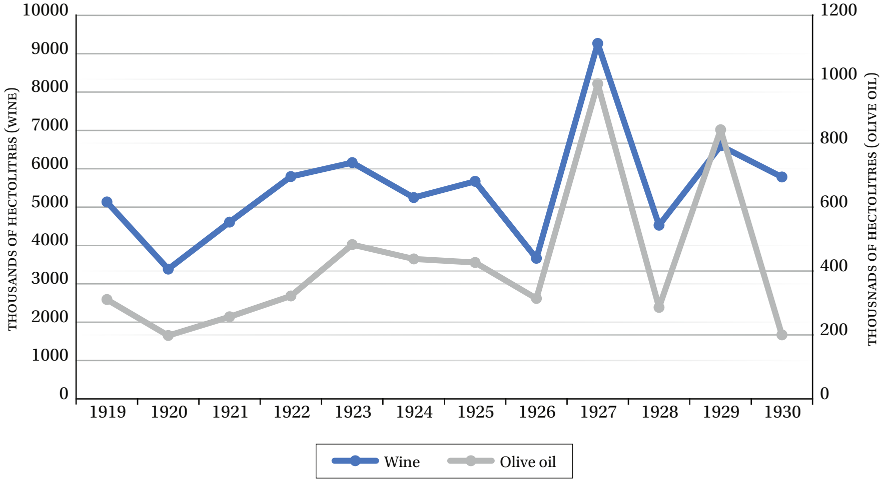
The meteorological year between September 1926 and August 1927 was particularly dry and hot. This did not seem to affect the overall agricultural production, which instead had a significant peak with the 1927 harvests. However, in the following year, the weather conditions did not improve enough to compensate for the adversity of the previous year, resulting in a decline in most agricultural products. Additionally, the agricultural year of 1927–28 yielded a poor olive harvest, coinciding with a bad year for wine and most cereals.

Figure 4. Composition of real aggregate GDP changes (expenditure approach)



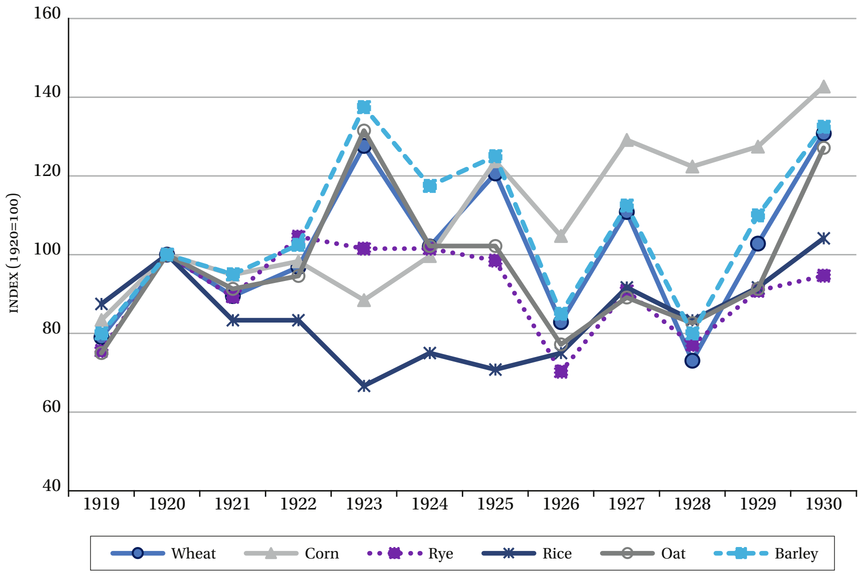
Source: Batista et al (1997).

Figure 5. Wine and olive oil cycles



Source: Valério (2001).

Figure 6. Agricultural harvests



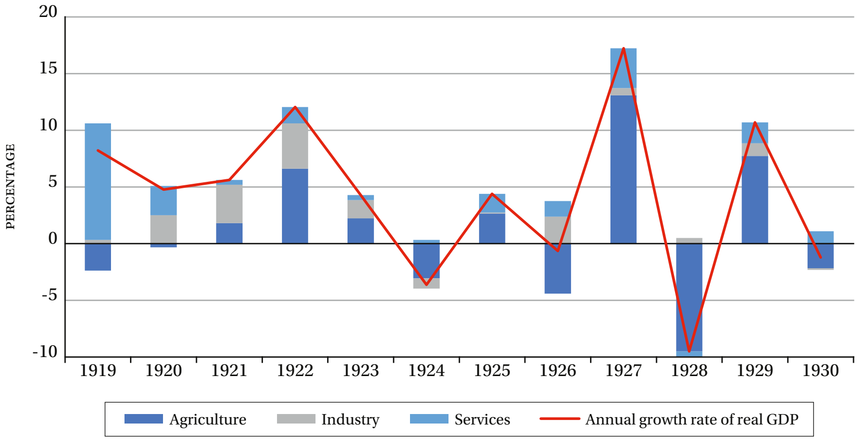
Source: Valério (2001).

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, in part, precisely from the effect of the poor domestic 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 behaviour 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 during that decade.

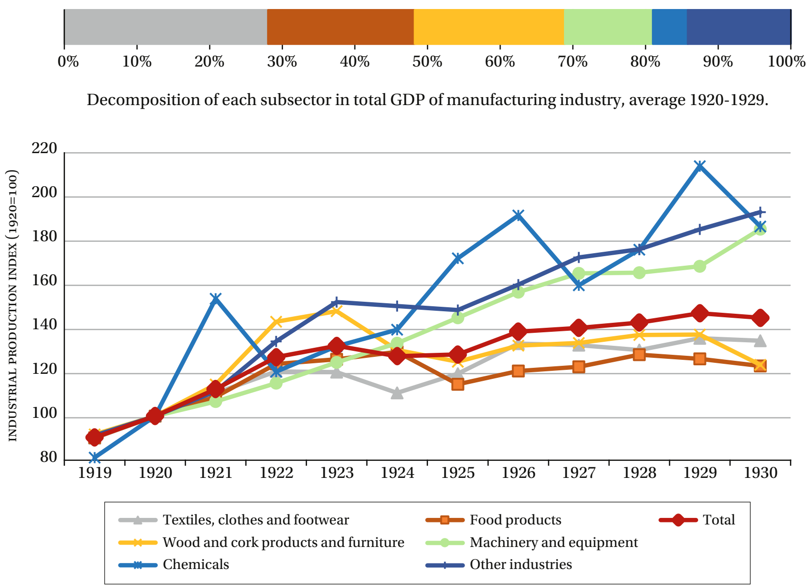
Figure 8 confirms the expansion of various industries from 1925 onwards, which may have been partly due to fiscal and monetary stabilisation. Yet, in the first half of the decade, the main national industries experienced a brief period of contraction, starting between 1922 and 1923, and with greater 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.

Figure 7. Changes in the composition of GDP (sectors)



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

Figure 8. Manufacturing industry: weights in industrial production (average by decade) and 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 date the business cycles with much precision.

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 stabilisation programmes 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 stabilisation programmes 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 favour 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 stabilised 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 stabilisation became decisively evident.

Amidst 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 for 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 stabilisation efforts.

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(For a comprehensive list of the sources, refer to the methodological note)

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12. Recessions of 1910–1919: the recession triggered by World War I

PEAK: 1912 | TROUGH: 1918 | LENGTH: 6 YEARS

Outline

The Portuguese Republic inherited fiscal imbalances from the monarchy, which were further exacerbated by political and social instability. In a mostly agrarian economy, a year of poor harvests in 1912–13 triggered a recession, which was worsened by the onset of the War in 1914 due to supply difficulties and restrictions on emigration. With Portugal's official entry into the conflict in 1916 as a belligerent, the recession was amplified both by its impact on monetary and fiscal instability and because Portugal lost access to important raw materials and consumer goods, as well as the ability to export its products. The recession ended with a peak in growth in 1919, although monetary and fiscal instability and the volatility of output persisted until the second half of the following decade.

Report

1. Context

The Republican uprising of 1910 allowed Portugal to become one of the first three republics in Europe before World War I, alongside France and Switzerland. The young regime inherited fiscal imbalances from the monarchy, which had never recovered from defaulting on sovereign debt payments in 1891. The government of Afonso Costa (1913–14) took some steps toward fiscal consolidation, but the war effort promptly interrupted those efforts.

The parliament authorised Portugal's involvement in the conflict in August 1914, dispatching troops to the African colonies, where they engaged in combat with Germany. However, the country did not formally adopt a belligerent status until February 1916, when Portugal seized all 72 German and Austro-Hungarian ships docked in national ports at the request of the United Kingdom. Germany declared war in March 1916. Shortly thereafter, the first of two national emergency governments (the «Sacred Union») took office, bringing together the two main parties of the time to govern the country until the end of 1917. The first 30,000 Portuguese soldiers sailed from Lisbon to the Western European front in January 1917. In total, the military force mobilised on all fronts exceeded 100,000 individuals, representing more than 3% of the active population.

Politically, despite the successive victories of the Democratic Party in legislative elections, the difficulty in forming majorities led to strong political instability, which had already been present in the final years of the monarchy but was now aggravated by frequent coups and counterrevolutions. Participation in World War I brought hardship to the people, and this discontent manifested itself in frequent protests.

Between January and May 1915, parliament was suspended, and there was a presidential initiative government known as the dictatorship of Pimenta de Castro. Several governments would follow until a military revolt led by Sidónio Pais triumphed in December 1917, establishing a dictatorial presidential regime. This regime would last for a year until the assassination of its leader in December 1918.

Social unrest permeated this entire period, with the development of the labour movement, demonstrations against inflation, and constant political dissidence. In January 1916, in response to reports of speculation and hoarding allegedly practiced by some vendors, there were raids on food distribution establishments throughout the country, some of them coordinated. In 1917, there were strikes in the construction sector, postal services, and in telegraph companies. In Beja, trade unionists and landowners prevented the shipment of wheat from the municipality throughout January. In Porto, there were bakery raids in April. Overall, strikes, riots, and raids increased between early 1916 and late 1917.

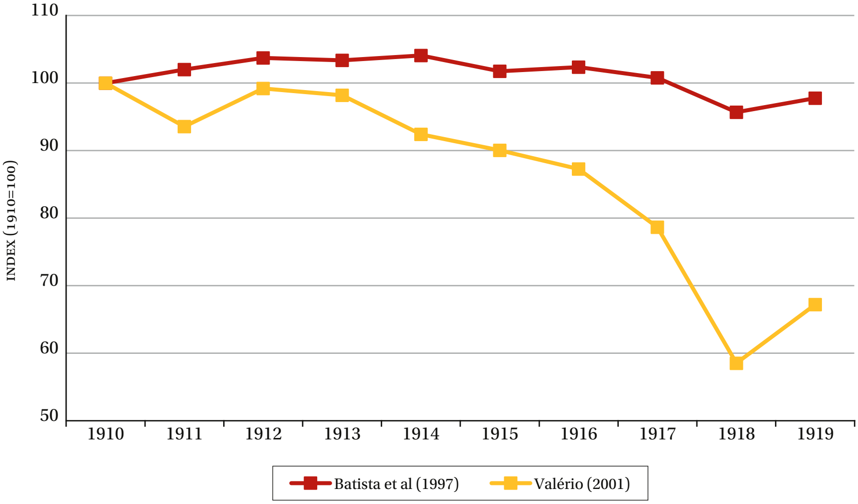
The end of the war did not bring social peace. In fact, the persistence of scarcity, high prices for certain essential goods, and the outbreak of the Spanish flu continued to worsen living conditions in the country. Between mid-1918 and mid-1920, the pandemic claimed the lives of over 100,000 Portuguese people in three waves, with the deadliest wave occurring in the second half of 1918. There were reports of the irregular functioning of factories and public offices caused by mortality and the recovery periods of the infected individuals.

2. Evolution of the economy

Figure 1 shows the evolution of real GDP during this period, according to two series built using different methods. As explained in the methodological notes, the aggregate series available for this period are reliable for studying long-term trends but are quite noisy at an annual frequency. This is partly because many national statistics were until recently only produced with a delay of several years. During this decade, the quality of data at an annual frequency is even worse because some data collection efforts were interrupted during the war. This leads to gaps and omissions between 1911 and 1914 in many of the usual disaggregated series that the Committee uses to date business cycles and reduces confidence in the estimates of GDP for these specific years.

There was a small initial decline in production in 1912. This does not seem to be associated with an external shock or internal political developments. The political instability and fiscal difficulties were already present and did not worsen significantly in that year. Instead, considering the weight of agriculture in the Portuguese economy, the shock likely originated in that sector. Portugal was a closed and predominantly rural economy. According to the 1911 census, 62% of the workforce was engaged in agriculture, often under self-sufficiency conditions. Industry, in a broad sense that includes small artisans, employed only 22% of the active population, and services accounted for the remaining 16%.

Figure 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.

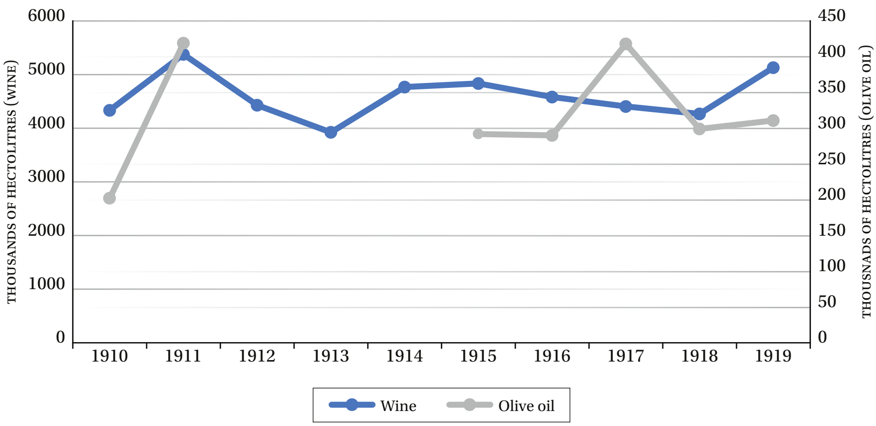
With the onset of World War I in late 1914, there was a more pronounced decline in production starting from 1915. After a slight recovery in 1916, the economy entered a rapid decline until 1918, which coincided with the two years during which Portugal was active on the European front of the conflict. The war economy in Portugal resulted in various changes to the production structure and constraints on economic activity.

To understand the business cycles during this decade and date them, it is necessary to delve deeper into the analysis of both the agricultural cycle — which was measured with greater imperfection during this period — and the impact of the Great War on the Portuguese economy.

The agricultural cycle

Figure 2 shows the cycle of the two main agricultural products in Portugal at the time: wine and olive oil. In the viticulture sector, two negative shocks stood out during this decade. First, in 1913, natural factors like pests and thunderstorms led to significant declines in the production of Port wine, which was an important export. Although these factors were not the same in the south of the country, the overall quantity of wine produced decreased. Second, between 1915 and 1918, wine production experienced stagnation or even a slight decline. This development was possibly linked to years of low rainfall and the difficulty in importing fertilisers and pesticides during the war.

Figure 2. Wine and olive oil cycles



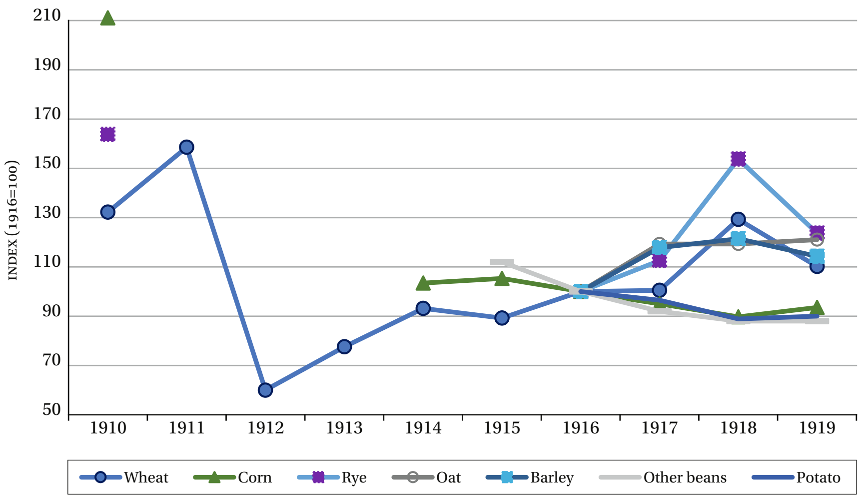
Source: Valério (2001).

For the production of olive oil, there is no available and reliable data between 1912 and 1914. However, it is worth noting that there was a peak in production in 1911. Considering the regular cycle of olive harvest and off years, this suggests a possible contraction in 1912. Similarly, after an expansion in 1917, there is a contraction in the following year, which is a recurring pattern in olive production in the Mediterranean basin.

Figure 3 shows data on the harvest of major cereals, again with significant data omissions at the beginning of the sample. Wheat, the only product for which there are consecutive data between 1910 and 1914, experienced a major decline in 1912. During the period of the Great War, there are no relevant fluctuations.

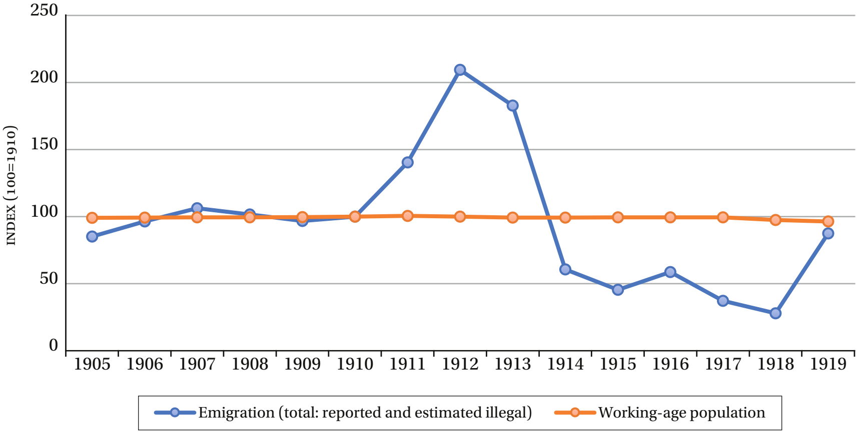
In other agricultural crops, the year 1917 saw low production in water-dependent crops due to low rainfall in the autumn-winter of 1916–17. As a result, bean production decreased by 8% in quantity compared to 1916, corn by 5%, and potatoes by 3.5%. The food shortage led to the «Potato Revolt» in May 1917, following a sudden increase in the price of potatoes, which played an important role in people's diet. The revolt led to popular raids in grocery stores and riots that resulted in more than 40 deaths.

Figure 3. Agricultural harvests



Source: Valério (2001).
Note: for the years 1911 to 1915, there is missing data for some series.

Figure 4. Emigration and working-age population



Source: Valério (2001), based on Baganha (1994).

Emigration was a way to escape the poor agricultural conditions of the time (figure 4). From the establishment of the Republic until the outbreak of the Great War, emigration increased rapidly, reaching a peak of nearly one hundred thousand individuals (including official records and estimates) in 1912. The main destination was Brazil. Between 1914 and 1918, limitations on the movement of people and goods, and the wartime climate, kept Portuguese emigration depressed. Therefore, the indicator provided little information about the true magnitude of the deterioration of living conditions in the country.

Portuguese war economy

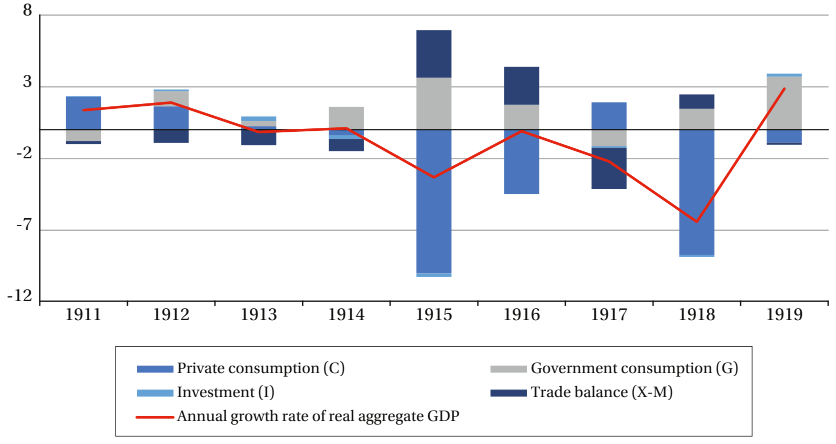
A decrease in emigration was one of the impacts of the war on the Portuguese economy, since people's mobility was severely restricted. Maritime and submarine warfare disrupted transatlantic connections, and the conflict with Germany and the invasion of France made land connections dangerous and difficult.

Naturally, this disruption in communications had a significant impact on foreign trade. Portugal relied on coal imports for heating and for its nascent industry, as well as on wheat imports, which were necessary for bread production and feeding the population. There are reports of frequent raids on bakeries in 1915. Cod fishing in foreign waters also became impossible, and supply shortages extended to potatoes.

The government reacted to these shortages in various ways, all of which were ineffective but revealing of the scarcity of products. In August 1914, the Commission for Subsistence was created to analyse and establish supplies of essential goods. The export of coal and certain foodstuffs was prohibited, a level of interventionism that until then had been uncommon. In April 1915, the prices of essential foodstuffs were fixed by municipal regulatory commissions. Later, it became mandatory to report production quantities. The Industrial General Warehouses were also established with the mission of ensuring essential supply sources for the industries, which often ceased operations due to the lack of raw materials. In 1917, the Ministry of Agriculture was created, launching a programme to increase agricultural production and productivity. Among other things, this programme attempted to form agricultural cooperatives for the cultivation of communal land and fallow land, and provide seeds and fertilisers to producers.

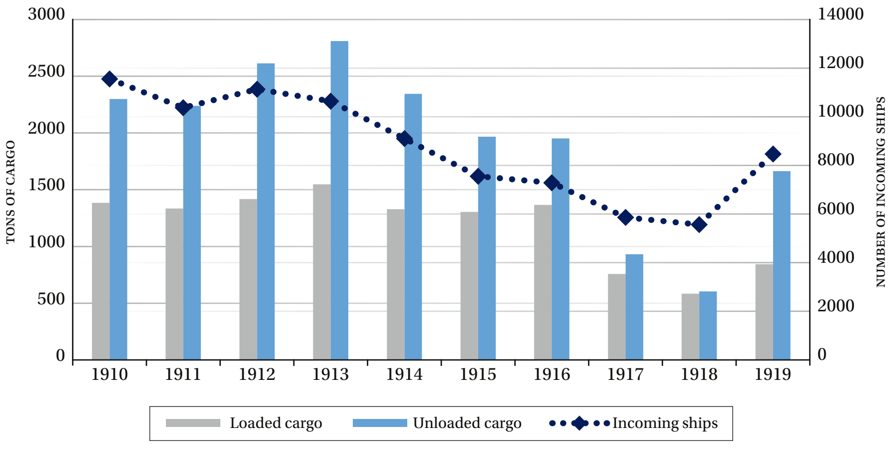
Figure 5 shows the breakdown of GDP by expenditure. The impact of the war on GDP in 1915 and 1916 was almost exclusively due to a collapse in private consumption, consistent with the scarcity of goods. Throughout this period, private consumption remained subdued, with another collapse in 1918. Initially, in 1915 and 1916, imports fell more than exports (in value), but in 1917 and 1918, the escalation of maritime warfare reduced both facets of international trade to a minimum. Figure 6 shows the decline in the movement of goods in quantities at national ports, which were the main route for external trade.

Figure 5. Composition of real aggregate GDP changes (expenditure approach)



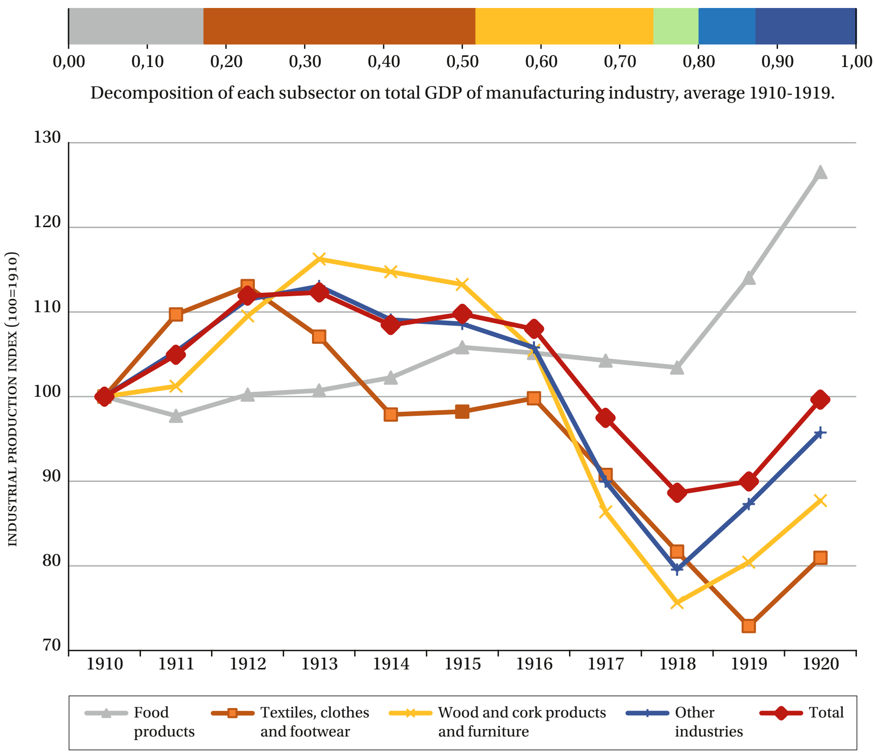
Source: Batista et al (1997).

Figure 6. Port movement



Source: Valério (2001).

Figure 7. Manufacturing industry: weights in industrial output (decade average) and production index (annual) of different subsectors



Source: Batista et al (1997).

The increase in public consumption in 1915 is also visible in figure 5. What is more surprising is its limited contribution to the economy in 1917 and 1918. The economic impact of the war on the Portuguese economy is distinct from that observed on the American, English, or German economies. While in those countries, military expenses were focused on weapons and uniforms that stimulated domestic production, Portugal produced little weaponry, and the payments associated with military expenditure went abroad. They were mostly financed through credit from the Bank of England. Thus, the largest portion of those expenses represented the salaries of the military personnel deployed overseas, which had little impact on consumption in Portugal.

Figure 7 displays the indices of industrial production for the main subsectors of the manufacturing industry together with their relative weights in the sector. Textiles were the largest subsector in 1917, representing 35% of the output of the manufacturing industry and employing approximately 33% of the industrial workforce. Out of the 50 largest national companies at the time (by asset value), 28 were in the textile sector (Neves, 2007). The wood and cork industry followed, accounting for 23% of the manufacturing industry's output and employing 11% of the active industrial population. The food sector accounted for 17% of the manufacturing industry's output and employed 21% of the active industrial population, particularly in canning and cereal milling.

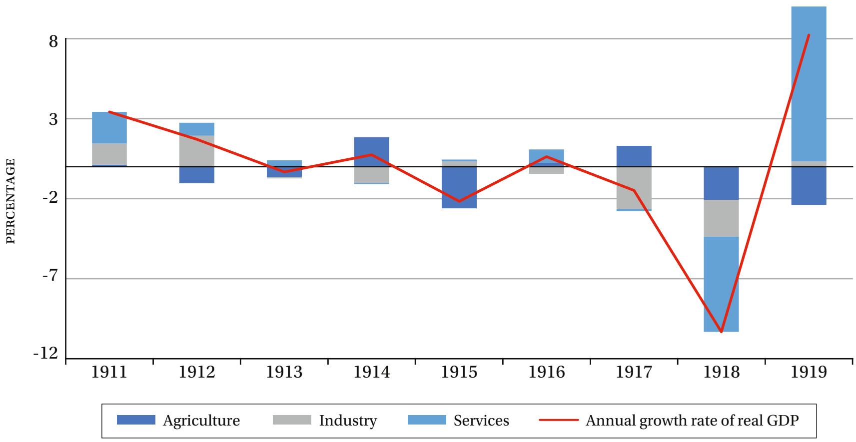
The disparate behaviour of different industries also highlights the peculiarities of the Portuguese war economy. The textile industries, which were highly dependent on raw material imports, reached a peak in 1912 and then declined continuously, except for a stagnation period in 1915–16, only resuming growth in the following decade. The wood, cork, and furniture industries, which were heavily export-oriented, followed a similar trend, affected by the contraction in external demand and the difficulties in marketing goods associated with the conflict, but with a trough in 1918. Portugal's involvement in the conflict in 1916 worsened the pace of production decline for both sectors. Both sectors also felt the absence of coal imports.

Most subsectors experienced similar dynamics, except for the transportation machinery industry, that continued to grow, and, especially, important food industries, which surprisingly saw their production remain constant or even show a tendency for growth, despite adverse conditions in terms of supplies, prices, and market access. The canned food industry was the driving force behind this subsector, as Portugal was the world's leading producer of canned goods, which were used by mobilised military contingents.

When we look at the decomposition of GDP by sector, it is important to note that, on average during this decade, about 35% of the output was in the primary sector, 27% in the secondary sector, and 38% in the tertiary sector. Therefore, when in figure 8 we observe that industry is responsible for a significant portion of the GDP decline in 1917, considering its limited weight, this corresponds to a major contraction within this sector. In turn, the contraction of services in 1918, associated with the worsening difficulties of the war compounded by the impact of the pneumonic flu, contributes to the recession, while its recovery in 1919 is one of the drivers of economic recovery. However, this rise and fall of services should be viewed with some caution. This decomposition of GDP comes from a product series (authored by Lains, 2003) that exhibits anomalous behaviour in 1919, with a GDP growth of 8.2% in that year, much higher than the available series (between 2.2% and 2.8%). This is due to a significant update in the weight of the services sector in 1919 by Lains (2003), which coincides with the significant growth in the financial sector that year.

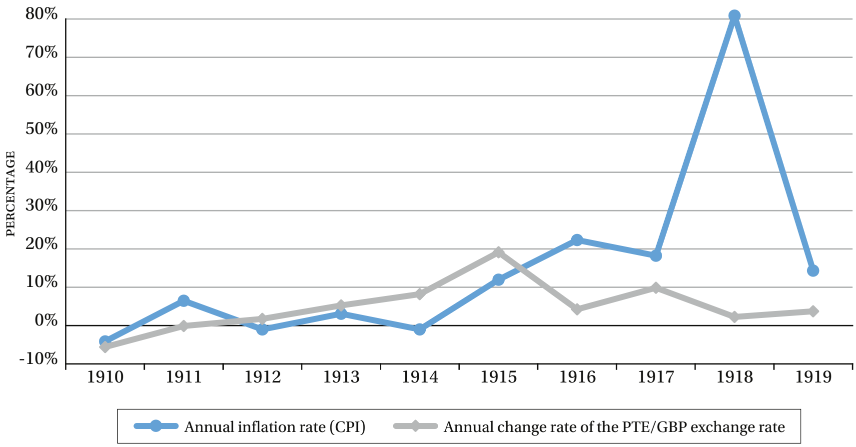
Finally, the last important effect of the war on the business cycle is related to the fiscal and monetary situation. The high deficits brought about by the war were monetised through debt issuance. In fact, in 1918, this monetisation was foreseen in a decree with the force of law governing the Banco de Portugal. As shown in figure 9, inflation skyrocketed, and because this inflation also occurred in other countries involved in the conflict, the exchange rate against the pound sterling did not change that much. World War I destroyed the national and international trend of stabilisation around the gold standard.

Figure 8. Composition of GDP changes (sectors)



Source: Lains (2003),based on Batista et al (1997).

Figure 9. Inflation and exchange rate



Fonte: Valério (2001).

3. Calibration of peak and trough

There is little doubt that the Great War caused a recession in Portugal. In turn, practically all indicators show a recovery in 1919 or 1920, with most of them pointing to the former date. Therefore, the Committee had no difficulty in dating the trough of the recession in 1918.

Dating the peak requires further discussion. On one hand, the effects of the war became particularly noticeable from 1917, when Portugal entered the conflict and lost all access to international trade by sea or land. On the other hand, the effects of the war on economic activity were already felt from 1915, especially with the impact on private consumption. Lastly, there was a contraction in agricultural production in the agricultural year of 1912–13, which the economy had clearly not started to recover from when the war broke out. Therefore, it is defensible to date the peak in 1916, 1914, or 1912. In the first case, the economic contraction is associated with the entry into the conflict, in the second case, it is associated with the onset of the Great War, and in the third case, it is associated with the agricultural crisis.

The Committee decided to date the peak in 1912. The three phases of this recession resulted from three consecutive shocks from which the economy never truly began to recover before the next shock emerged. Therefore, each of them exacerbated the recession, contributing to one of the longest recessions in the Portuguese economy during the First Republic.

4. Conclusion

At the beginning of the Republic, Portugal was a heavily agrarian economy that was closed to the outside world. The exception were canned goods and Port wine in exports, as well as the dependence on wheat imports for food and coal for the nascent domestic industry.

In the agricultural year of 1912–13, adverse natural conditions led to a contraction in wine and cereal production. The main crops did not recover the following year, and in 1914, the outbreak of the Great War led the Portuguese economy into a new recessionary shock. Supply difficulties caused a significant decline in household consumption and heightened social tension, partly associated with the pressure that urban areas exerted on rural areas in terms of food supply. Emigration halted with the closing of borders, which abruptly ended the boom in emigration to Brazil and the United States from previous years.

The impact of the war intensified in 1917 with Portugal's entry into the conflict. Not only did it place a heavy burden on public finances, without a corresponding stimulus in domestic demand for industries, except for canned goods, but it also closed maritime borders (due to German submarine actions) and made land mobility beyond Spain dangerous or impossible.

With the end of the war, the opening of borders allowed for the resumption of supplies and the distribution of production, triggering an economic recovery. However, this recovery was not complete, and economic activity remained depressed in the first half of the 1920s. The Great War was a source of significant financial and fiscal instability in Portuguese economic history.

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(For a comprehensive list of the sources, refer to the methodological note)

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NEVES, Pedro, (2007), «Grandes Empresas Industriais de Um País Pequeno: Portugal da Década de 1880 à 1ª Guerra Mundial», Doctoral Thesis, ISEG, Lisboa.

Section 3: Appendix with methodological notes

13. Methodological notes for the post-1980 business cycles

Summary

Complementary technical note to the reports. This chapter explains the concepts and methodologies used by the Portuguese Business Cycle Dating Committee to date business cycles.

Report

1. Approach

The Committee bases its decisions on a subjective, multidimensional strategy, using a set of monthly and quarterly economic activity indicators, different algorithms, and the assessments of its members. Each member of the Committee closely monitors developments in the Portuguese economy, and it is then up to them to propose the assessment of an inflection point to be discussed by all members at meetings.

The approach used to analyse the business cycle focusses on output as measured by GDP. There are also assessments of the state of the labour market, of economic sentiment and of international trade, as well as many other factors, but it is mainly on GDP that the precise dating of peaks and troughs depends.

The dating is done at a quarterly frequency. The Committee does not take a stance on the date within the quarter where the recession's peak or trough occurred.

The Committee makes decisions on the calibration of peaks and troughs with some time lag, in a retrospective exercise, not making predictions or projections about the Portuguese economy.

Committee decision review policy

The goal of the Committee is to create a reference chronology and, therefore, avoid reviewing past datings at future dates. However, the work of the Committee is subject to the availability of the data and, most importantly, revised data. Although improbable, dating may be changed retrospectively.

Committee decision release policy

The Committee will meet periodically to make its assessment of the status of the business cycle. Its conclusions will sometimes be released even if peaks or troughs are not calibrated.

2. Key concepts

Peak

With the quarterly frequency used by the Committee, the quarter defined as a peak is the one where economic activity reaches its highest point in a given business cycle, marking the end of a period of expansion.

Trough

With the quarterly frequency used by the Committee, the quarter defined as a trough is the one where economic activity reaches its lowest point in a given business cycle, marking the end of a recession.

Recession

The Committee defines a recession as a significant decline that broadly affects all economic activity. A recession begins immediately after a peak and ends with a trough. It can last for just a few quarters or several years, and even include periods when there is a positive variation in GDP indicators but the Committee concludes that it does not have enough magnitude or scope to indicate an expansion.

Expansion

In the same way, an expansion is defined as a significant and extensive increase in economic activity. Expansion begins immediately after a trough and ends at a peak. It can last for just a few quarters or several years, and even include periods when there is a negative variation in GDP indicators but the Committee concludes that it does not have enough magnitude or scope to indicate a contraction.

Business cycle

A business cycle, by definition, encompasses a full expansion and recession, and can also be defined as the period between two consecutive troughs.

Economic activity

The focus on output leads to an emphasis on measuring economic activity. Therefore, although real GDP per capita (quarterly) and a coincident indicator (monthly) are the Committee's reference series, it does not use a single or a unidimensional measure of economic activity. The Committee's analysis combines aggregate indicators (such as the components of GDP from the perspective of expenditure or employment) with sector indicators (such as the industrial production index) and qualitative indicators (such as the economic sentiment index). Together, these contribute to measuring economic activity and, consequently, the calibration of peaks and troughs. To make its decision, the Committee systematically and broadly analyses its own database, with hundreds of quantitative indicators, as well as several sources of qualitative information.

3. Sources

Data

The Committee has its own database, consisting of monthly, quarterly and annual series from the following sources: Banco de Portugal (BdP), Statistics Portugal (INE), Eurostat, Organisation for Economic

Co-operation and Development (OECD) and the Portuguese Public Finance Council (CFP).

- Quarterly real GDP per capita — calculated based on the long quarterly series for the Portuguese economy provided by the Banco de Portugal (real GDP series) and on the annual resident population series provided by INE; linear interpolation is used to calculate the quarterly population (not available before 2011). The Committee closely monitors both real GDP per capita and real aggregate GDP, as well as a set of demographic series. It is therefore attentive to the trends that could affect both the numerator and the denominator of real GDP per capita.
- Monthly coincident indicator — a coincident indicator of Portuguese economic activity based on the annual rate of change of the coincident indicator from the Banco de Portugal, announced since January 1978. The value for January 1977 is indexed to 100 and the values for the remaining months in 1977 are calculated based on the OECD leading indicator for the same period. The year-on-year growth rates of the Banco de Portugal's coincident indicator are then applied successively.

All the series represented in the reports are available on the Committee's webpage.

Reference chronologies

Whenever there is mention of another economy in recession, the Committee bases this on the business cycle dating provided by the following bodies:

- Spain — Dating Committee, Asociación Española de Economía (AEE), [*link*];

- US — Business Cycle Dating Committee, National Bureau of Economic Research (NBER), [*link*];
- Euro Area — Euro Area Business Cycle Dating Committee, Centre for Policy Research (CEPR) and Euro Area Business Cycle Network (EABCN), [*link*]. In accordance with the language used by this body, «Eurozone» refers to the 11 founding countries of the Euro Area and Greece between 1977 and 1998; from 1999, the same term is used to refer to the Euro Area as a whole during the recession in question.

4. Data processing

Trends/Structure

To estimate trends (for example, GDP or employment trends), the Committee uses stochastic parametric filters, namely the filter proposed by Baxter & King (1999). The filtering is based on a bandpass algorithm which removes the cyclical component of the structure in each series, based on movable weighted measurements and on oscillation bands predefined for non-seasonal variations. To this end, the Committee uses a filter with 12 quarters of order (unilateral), a lower limit of 3 and an upper limit of 20.

Seasonality

Whenever the data series have not been seasonally adjusted by the source, the Committee applies the standard methodology used by statistical bodies to break them down, removing the seasonality factor through a semiparametric approach based on X-13-ARIMA SEATS software. Unless otherwise stated, all of the monthly series graphs produced by the Committee are presented with seasonal correction (but not calendar adjustment).

Inflection Algorithms

At the first stage of its analyses, the Committee uses univariate methods to produce indicative dating. Using the Committee's database and considering series both in level and logarithmic scale, whether aggregate or per capita, these are, firstly, filtered: as the Portuguese economy has gone through changes in GDP growth trends and population in the last 50 years, ignoring such changes could distort the detection of inflection points. Six different filtering techniques were taken into account: (i) Hodrick-Prescott filter, with a parameter of 1600; (ii) Rotemberg filter (2003); (iii) the Baxter & King bandpass filter (1999), maintaining fluctuations between 6 and 32 quarters; (iv) estimating trends using a time polynomial, with the choice of the polynomial degree based on information criteria; (v) estimating linear trends with breaks, chosen based on information criteria; (vi) no filter (raw series). Next, each one of the series resulting from the filtering is submitted to a set of five different inflection point (peaks and troughs) detection algorithms: (i) Bry & Boschan (1971), with two versions; (ii) Harding & Pagan (2002); (iii) a statistical method proposed by Chauvet & Hamilton (2005), based on Markov chains; (iv) a statistical method based on two ARMA processes of the same order, but with different coefficients for when the economy is above or below a certain threshold (expansion or recession). Thirdly, given the multitude of filter-algorithm combinations for each original series, the Committee has adopted a set of appropriate exclusion criteria. This review results in hundreds of admissible datings, which inform the start of the Committee's work.

5. Data Representation

Peak indexing

For the purposes of graphic representation, many of the series in the reports are indexed at 100 on the peak, making it easier to read the dynamics during a recession. In particular, if the series in question is quarterly, the point that represents the peak for the quarter is assigned the value of 100; in turn, if the series in question is monthly, it is the point that represents the second month of the quarter that is assigned the value of 100.

Recession bars

In order to represent the grey recession bars overlaying the graphs to be produced by the Committee, the midpoint method was adopted, resulting in the shaded area beginning at the intermediate point of the quarter defined as the peak and ending at the intermediate point of the quarter defined as the trough. The Committee would like to point out that this is merely a convention and does not convey any stance by the Committee as to the moment in each quarter where the peak or trough is situated.

6. References

Baxter, Marianne, & King, Robert G., (1999), «Measuring Business Cycles: Approximate Band-Pass Filters for Economic Time Series», *The Review of Economics and Statistics*, 81(4): 575–593.

Bry, Gerhard, & Boschan, Charlotte, (1971), «Cyclical Analysis of Time Series: Selected Procedures and Computer programs», Nova Iorque, National Bureau of Economic Research.

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14. Methodological notes for the 1910–1979 business cycles

Outline

Technical note that explains the different approach in dating the pre--1980 business cycles and lays out some of the data issues faced by the Committee.

Report

1. Objective

The Committee decided to date the 1910–1979 period on an annual frequency. There are very few aggregate data series at higher frequencies before 1960. Whenever possible, the Committee decided to indicate in each report the semester or quarter in which the trough and peak would most likely be, data availability permitting. It should be noted that, although the dating is done on an annual basis, the Committee does not exclude the possibility of recessions lasting only one year, even though special care has been taken to analyse multiple data sources for these recessions in order to ensure they are not the result of noise in a single series. Finally, because there are different possible series for real per GDP capita (discussed in section 5), the Committee decided not to report the amplitude of these cycles, although each reader can calculate it for their preferred measure of real GDP per capita, or for any other indicator of their choice.

2. Structure of the reports

Each chapter can be read independently and does not require the reading of any of the other reports. Although this implies some repetition, it also allows the structure of each report and the indicators being discussed to be the appropriate ones for that period.

Considering the quantitative and qualitative information gathered, after analysing and discussing the possible recessions, the Committee decided to produce two individual reports on the only two recessions identified between 1950 and 1979. These recessions mark two important periods in Portuguese economic history: between 1951 and 1953, it is the last predominantly agricultural recession in Portugal, and between 1973 and 1978, there is the unprecedented conjunction of economic, political, and demographic shocks.

For the period between 1910 and 1949, the Committee decided to produce four chapters, dividing this period into four epochs. Sometimes they encompass more than one recession and expansion, but the Committee considered them to fit into the same narrative about the time's business cycle. Thus, there are chapters for 1910–1919, 1919–1930, 1930–1939, and 1939–1945. Except for the circumstances of the wartime economy, the recessions during this period often had similar causes, related to the negative association of agricultural production cycles. Additionally, the data quality is lower for this period, making it more challenging to conduct a detailed analysis of each individual recession.

It is important to point out that the Committee does not intend to replace the important work of economic history during this period. Instead, the goal is to complement it with a macroeconomic analysis restricted to the study of business cycles. This work did not contribute to the collection of new primary data, nor did it attempt to comprehensively cover all significant moments in Portuguese economic history. For that purpose, there is a vast literature on 20th-century Portuguese history that interested readers may consult, which complements the work of this Committee. The emphasis on business cycles, along with the discussion of related topics and the focus on indicators that are sometimes absent in analyses covering longer-term trends, brings a new perspective to Portuguese economic history that may be useful for future studies.

3. Data

Estimates of economic aggregates

Several good indicators of GDP and other production aggregates during this period were produced by different authors using imperfect and incomplete data. Different indicators have different advantages, and combining the information they provide offers a more reliable picture of the economy at the time. The Committee considered four main series of GDP throughout the analysed period. These correspond to *base series*, in which authors sought to construct distinct series of GDP using sufficiently distinct techniques and/or data:

- For the period 1910–1953, the Committee considered the series by Valério (2001), derived from Valério (1998), and the series by Batista et al. (1997), which extend until 1958. They follow very different approaches. Broadly speaking, Valério's series use indirect methods to estimate nominal GDP through regressions estimated with good quality data for some series, and with a significant effort in constructing price indices. Batista et al.'s series use measures of quantities produced in different sectors, which are then added using estimates of relative prices in a base year.
- For the 1953–1980 period, the Committee considered the series by Pinheiro et al. (1997) and Matias and Carvalho (2021), different works that constitute the «Séries Longas» for the Portuguese Economy.

These *base series*, along with *secondary series* — those constructed by other authors based on Pinheiro et al's measure, such as Lains (2003) or Mateus (2013) — and their possible decompositions, anchored the Committee's initial discussions.

<table>
<tr><th></th><th>Base series</th><th>Availability in the original source</th><th colspan="2">Relation to secondary series</th></tr>
<tr><td rowspan="3">After 1953</td><td rowspan="2">Pinheiro et al. (1997)</td><td rowspan="2">NOMINAL SERIES
REAL SERIES
[chain-linked]
DEFLATORS
[implicit]</td><td>Lains (2003)
NOMINAL
REAL
DEFLATOR</td><td>Small statistical corrections according to the author. Differences in the deflator and the measure of real GDP.</td></tr>
<tr><td>Mateus (2013)
REAL</td><td>Based on Batista et al. (1997).</td></tr>
<tr><td>Matias and Carvalho (2021)</td><td>NOMINAL SERIES
REAL SERIES
[chain-linked]
DEFLATORS</td><td colspan="2">Expanded revision of Pinheiro et al. (1997) with: update of accounting standards, changes in sectoral weights, new deflators and price indices, and conversion to euros.</td></tr>
<tr><td rowspan="3">Until 1953/58</td><td rowspan="2">Batista et al. (1997)</td><td rowspan="2">NOMINAL SERIES
REAL SERIES
[1958 constant prices]
DEFLATORS
[implicit]</td><td>Lains (2003)
NOMINAL
REAL
DEFLATOR</td><td>Small statistical corrections according to the author. Differences in the deflator and the measure of real GDP.</td></tr>
<tr><td>Mateus (2013)
REAL</td><td>Based on Batista et al. (1997).</td></tr>
<tr><td>Valério (2001)</td><td>NOMINAL SERIES
REAL SERIES
[chain-linked]
DEFLATORS
[implicit]</td><td colspan="2">Methodology followed by Statistics Portugal (other series come from Banco de Portugal) using indirect methods.</td></tr>
</table>

Disaggregated data

Since, for a significant part of the period under analysis, the Portuguese economy was predominantly agricultural, and data on harvests are often more reliable, the Committee paid particular attention to various series related to production and resource employment in the primary sector. Over 60 series were collected and analysed. In more recent periods, industrial production gradually became more important. In that regard, and benefiting from the increased availability of industrial data since the 1950s, the Committee also focused on decompositions of gross value added by sectors, in addition to industrial production indices.

During the World Wars, transportation difficulties placed significant constraints on the economy, resulting in a reduction in the international trade volume. Therefore, the Committee considered data on port movements and exports from different sectors, different types of goods (consumer, investment, or intermediate), and occasionally, individual important products (such as cork or Port wine) to better calibrate external influences.

Equally important during this period are data on active population and migratory flows. Emigration often served as an escape valve for the country's economic difficulties, making abrupt changes in migratory flows potentially useful indicators for dating the business cycle. However, analysing these data poses a challenge as emigration surges sometimes reflect internal shocks — such as worsening living conditions —, while, on other occasions, they reflect external shocks — such as the opening or closing of borders in host countries.

Employment data is more difficult to measure and interpret during a time when the majority of the population worked in agriculture, outside the market economy, but in a subsistence regime. The quantification of employment by sectors, when possible, became important to control and contrast significant sectoral differences in each recession.

The Committee considered detailed data on fiscal and monetary policy, as well as prices and exchange rates of the escudo. These were particularly important in the 1920s and 1970s for understanding the proximate causes of recessions.

In total, the Committee's database has 781 base series, listed in the appendix, covering the economic, demographic, social, and political reality of Portugal from the late 19th century to 1980.

Social, political, and economic context

The economic policies adopted in a given year are often a response to shocks that affected the economy during that year. Therefore, they become useful as a reflection of the state of the economy. Subsidies to agricultural production, price controls, and rationing during wars are of particular importance, as well as the evolution of industrial planning during the Estado Novo regime and large-scale public investment projects. In addition, public policies provide context to the events of the time. The Committee looked at reports from the press at the time, Reports of the Board of Directors of the Banco de Portugal, reference chronologies — of the monarchy, the First Republic, and the Estado Novo —, the Portuguese Repertoire of Political Science (Respublica), and various works by scholars of 20th-century Portuguese history referenced in the bibliography.

4. Methodology

The Committee decided that the analysis would be subjective and multidimensional. Different output series have different multiple peaks and troughs, so they do not suffice.

At an exploratory level, the data processing for the Committee's analyses included:

1. Combining different nominal series with different measures of price changes (GDP deflators and price indices) to construct a range of real series for periods where price developments were poorly measured.
2. Combining different real output series with various measures of population changes (GDP per capita). Since different authors proposed different dynamics for these series in intercensal years,

especially in the 1960s and 1970s, the Committee strengthened its analysis with multiple demographic series.

3. Separating trend and fluctuations for multiple series using filtering methods, specifically Baxter and King (1999) and Hodrick and Prescott (1997).
4. Detecting minima and maxima using appropriate algorithms, resulting in an initial list of potential candidates for recessions and expansions (following Bry and Boschan, 1971).

Invariably, however, this work on aggregated data series proved inconclusive peaks and troughs of economic activity. Slight changes in methods and series used, especially for deflators, resulted in minima and maxima in the series shifted by several years. The Committee ended up relying heavily on disaggregated series and a wide combination of indicators to date the business cycle. This is reflected in the text of the reports.

Another difficulty with the use of the real GDP per capita series, which played a more significant role in the post-1980 dating work, is the significant divergence among different estimates of prices and population.

The evolution of prices and the construction of real output series

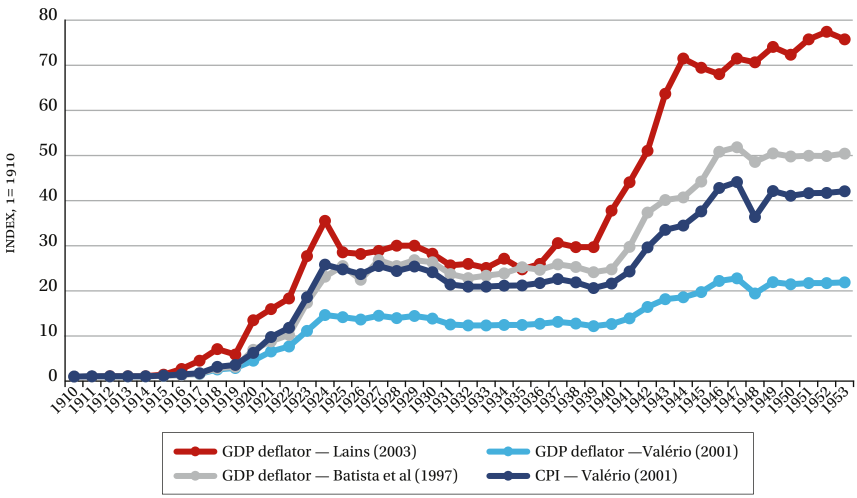
The two periods, between 1910 and 1953, and between 1954 and 1979, use different measures for nominal GDP (see above table) and have different measures of the price level.

1910–1953 period

Figure 1 shows the four main indicators for the price level. Although Lains' work (2003) is based on the original work of Batista et al. (1997)

and uses their data, he makes quite different choices regarding the GDP deflator. The difference is even greater when comparing the two price indices produced by Valério (2001), because while the GDP deflator is more appropriate for constructing real series, the consumer price index provides a good indication of the living difficulties faced by the population.

Figure 1. Evolution of the price level according to four series (Pre-1953)



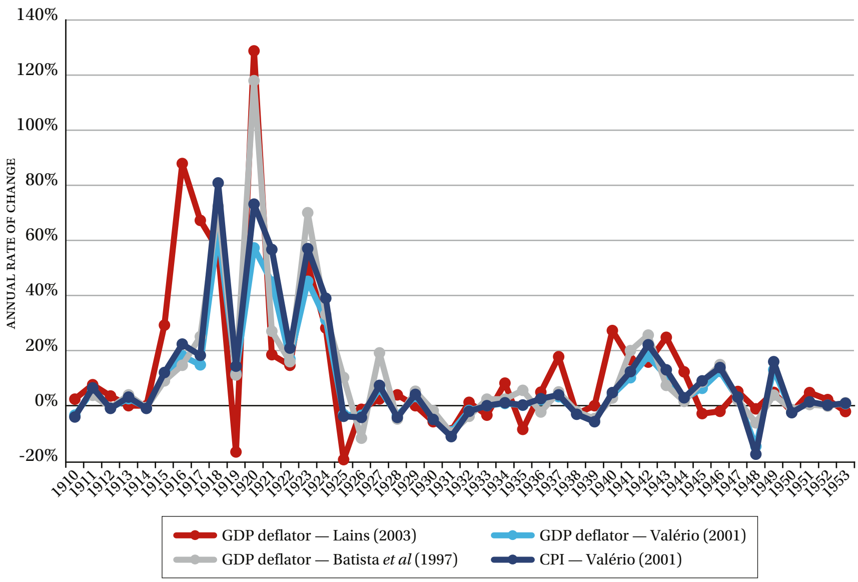
Source: in legends.

The inflation measures resulting from these series are shown in figure 2. They make the noise in the data and in these annual frequency series quite visible and illustrate why a purely statistical analysis of any real GDP series would always have difficulty detecting local maxima and minima in the series with high reliability.

The decade with the highest inflation in the 20th century in Portugal began in 1914 and extended for over a decade. The different measures of price evolution depict increases approaching, if not surpassing, 100% at their maximum. At the same time, the available measures exhibit some divergences during this period, which has a significant impact on the real GDP series used in two of the reports, as seen in figures 3 and 4.

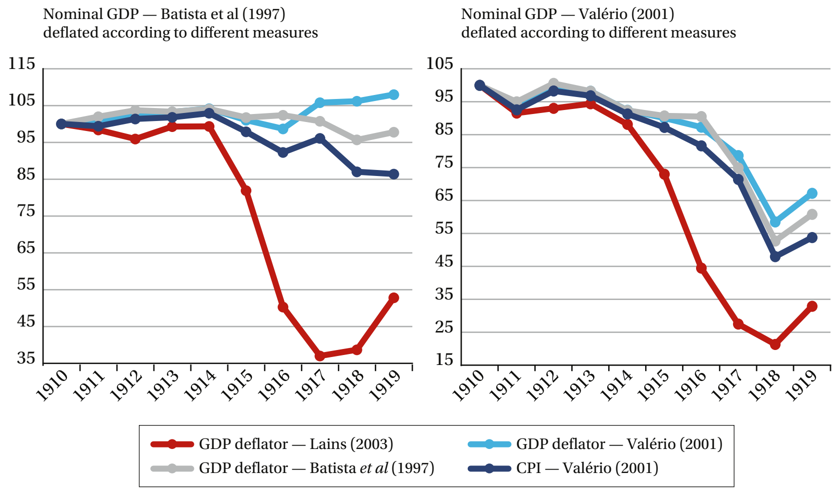
For the 1910s decade, although the fluctuations using Lains' deflator (2003) are extreme, qualitatively they point to peaks and troughs in the same years as the other three series. The same applies to the 1920s decade, although here the peaks and troughs in the different series are quite distinct, and the noise in the series is evident. Therefore, in the analysis of this decade, the Committee placed even less weight than usual on real GDP indicators and focused more on agricultural and industrial production indicators.

Figure 2. Evolution of the annual inflation rate according to four series | Pre-1953



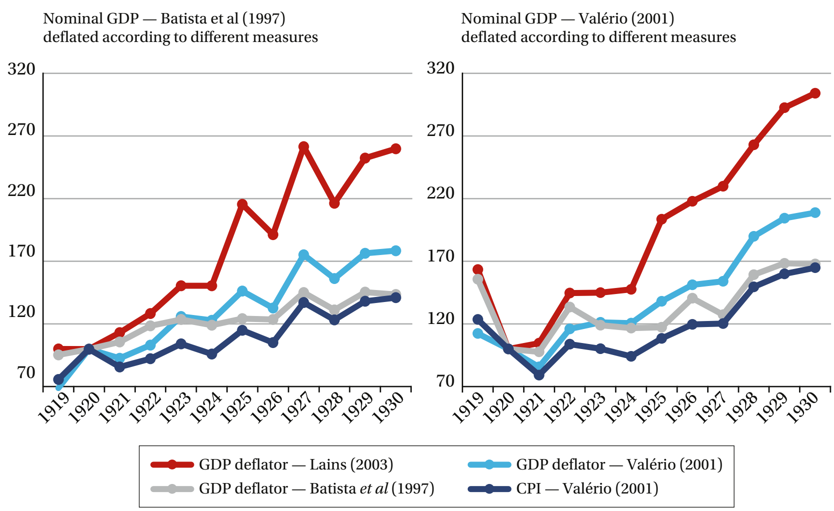
Source: in legends.

Figure 3. Alternative real GDP measures — 1910s (Index, 1910=100)



Source: in legends.

Figure 4. Alternative real GDP measures — 1920s (Index, 1920=100)

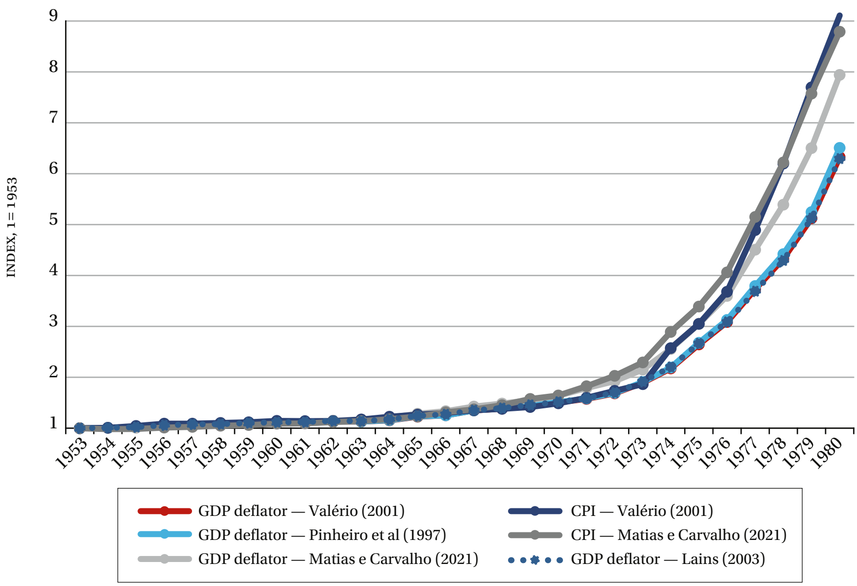


Source: in legends.

1953–1980 period

Although it is not the goal of this Committee to conduct a comparative analysis of the different price series available for the Portuguese economy, it is important to highlight that the discrepancies between them increase significantly in the 1970s, as seen in figures 5 and 6. On one hand, Pinheiro et al. (1997) serve as the basis for the deflators used in Valério (2001) and Lains (2003), with mainly numerical differences between these three series. On the other hand, the implicit GDP deflator proposed in Matias and Carvalho (2021) presents some important differences, such as the upward revision of inflation for 1971, 1974, 1977, and 1978, compared to Pinheiro et al. (1997).

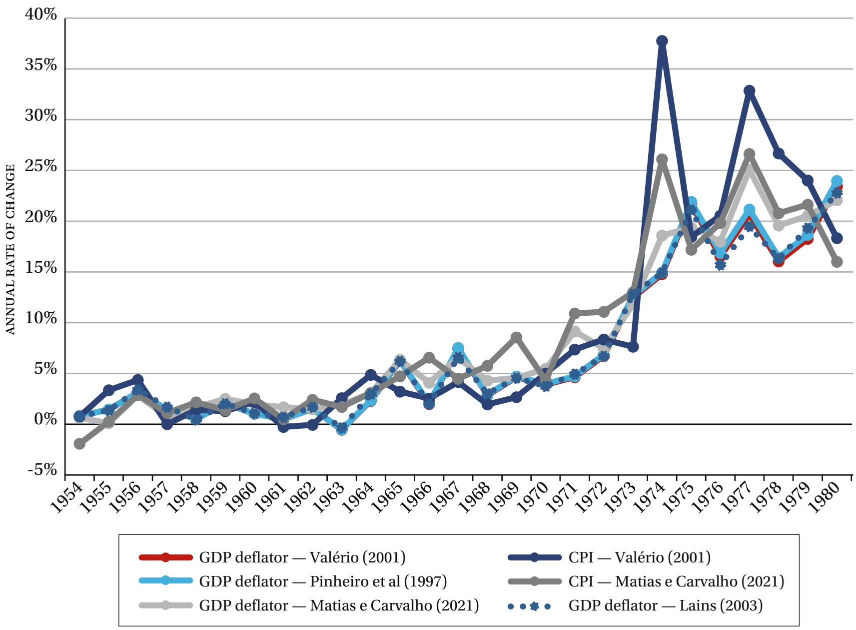
Figure 5. Evolution of the price level according to six series | Post-1953



Source: in legends.

These differences have a significant effect on detecting troughs in the 1970s. Therefore, the report discusses several options, always using the nominal GDP from Matias and Carvalho (2021) as a reference. The figures below provide some alternatives to complement this analysis: in figure 7, we use the nominal GDP from Pinheiro et al. (1997) instead; in figure 8, the real GDP is shown for each of the three nominal series, using the deflator preferred by the author of the nominal series.

Figure 6. Evolution of the annual inflation rate according to six series | Post-1953



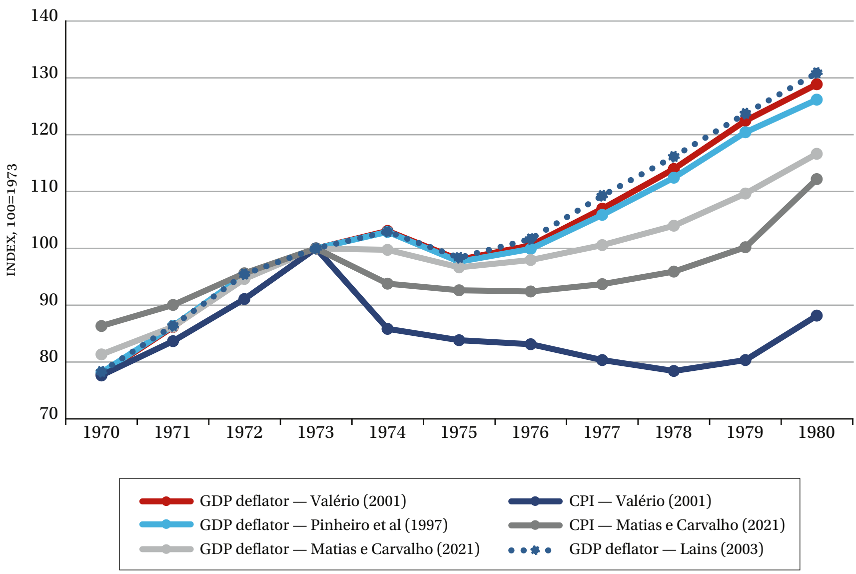
Source: in legends.

The evolution of demographic series in intercensal periods and implications for the Committee's decisions

For population estimates, the Committee used a historical time series (at an annual frequency) proposed by Valério (2001) and published by Statistics Portugal. However, the annual estimates of the resident population between censuses have an inherent margin of error, which the Committee considered in its analysis. Therefore, the focus in all the reports is on the series of aggregate real output, without dividing it by the population. Population fluctuations, especially migration balances, are then discussed separately in various reports.

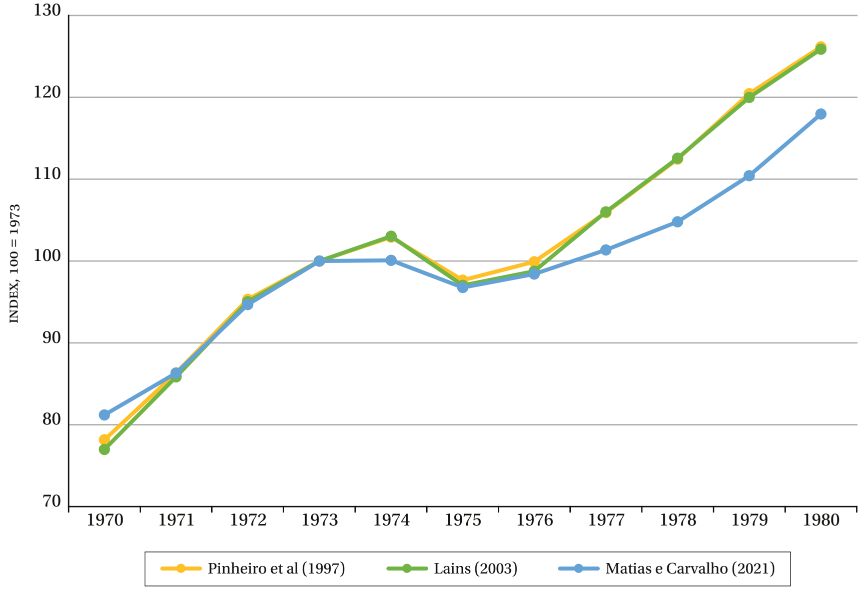
The exception is the 1960–1980 period, which some authors (such as Amaral, 2009) have examined, proposing alternative series that better capture not only the intense emigration of the 1960s but also the influx of citizens residing in former colonies and military demobilisation. Figure 9 shows the differences in the series, which are discussed in the report on the recession of 1973–78.

Figure 7. GDP according to Pinheiro et al. (1997) and several deflators



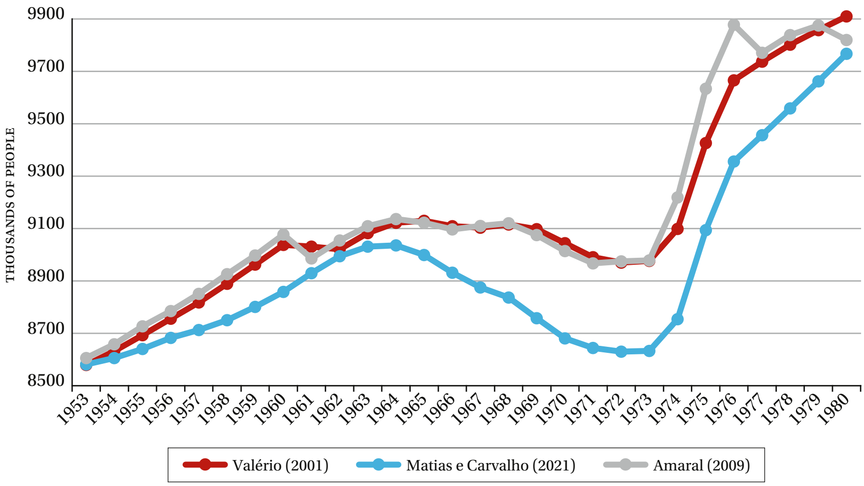
Source: in legends.

Figure 8. ***Base*** **and** ***secondary*** **series deflated according to own GDP deflator**



Source: in legends.

Figure 9. Comparison between population series



Source: in legends.

5. Conclusion

In order to allow the possibility of being read separately, each report repeats some of the data considerations explained in these methodological notes. The inescapable conclusion is that an assessment of business cycles requires an analysis that considers multiple data sources simultaneously, without focusing on a single indicator, while attempting to evaluate both the output and the well-being of the population at the time. This was the guidance followed in the reports.

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Note: additional specific references that informed the Committee in the production of an individual report are mentioned only in the bibliography of that specific report.

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