

GROSS DOMESTIC PRODUCT

2023

November 2024

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Introduction

This document presents the results of the calculation of the Gross Domestic Product (GDP) for the year 2023 and recalls the main principles and methodological choices necessary for its elaboration.

The Gross Domestic Product (GDP) summarises economic activity and is an essential piece of information in the contemporary economic debate. It enables the effectiveness of economic policies to be monitored and assessed, and comparisons to be made with other countries, particularly within the European Union.

The first calculation of GDP in the Principality was carried out in 2005, and it has since been the subject of an annual report. Since 2006, the results are detailed by business sector and presented in constant euros, allowing the effects of inflation to be corrected.

Moreover, the GDP data for the previous year are updated with the responses received after the deadline. A new extrapolation is thus calculated and integrated, which leads to a modification of the GDP amounts and therefore of the growth rates previously published.

1. The Gross Domestic Product

1.1. Global economic situation

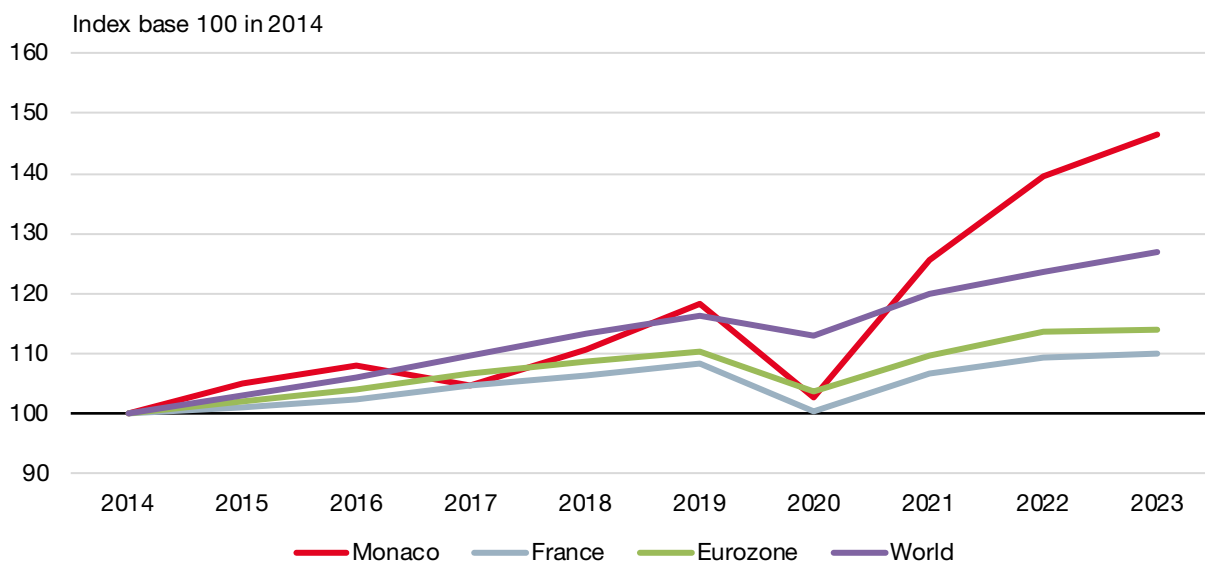
Since 2020, the global economy has been constantly tested and faced with numerous obstacles and challenges. These include, of course, the pandemic and its socio-economic consequences, but also the subsequent disruption of supply chains, the war between Ukraine and Russia, the energy crisis, widespread inflation and, ultimately, the tightening of monetary policy in response. Naturally, all these disappointments only served to fuel the pessimism of economists around the world and their forecasts, to the point where rumours of recession began to spread. However, the global economy stood firm and showed great resilience in the face of these shocks, and the world did not fall into recession. On the contrary, economic activity has continued to expand steadily, despite key interest rates being kept high by central banks in order to control inflation. This is largely due to stable employment and income growth and the ability of households to draw on savings built up during the health crisis.

In 2023, world GDP growth is 2.7% in volume terms¹, slightly lower than the previous year (3.1% in 2022) and below its pre-pandemic average². Eurozone growth, on the other hand, is stagnating at 0.4%, compared to 3.4% in 2022. These two results highlight disparities between countries. Indeed, countries such as India, China and Vietnam have growth rates of 5% or more, while most of the advanced economies are struggling to exceed 3% (United States 2.5%, France 0.7%, United Kingdom 0.1%) and, in the case of Germany, are even showing a decline in GDP (-0.3%).

The picture is different in Monaco. After 2022, which still benefited strongly from the economic recovery following the health crisis, the Principality's growth remains sustained in 2023. Despite the inevitable impact of inflation, the main indicators point to good economic health in 2023, with increases of more than 5% in total revenue and the overall volume of international trade, and 3.5% in private sector employment. Against this background, GDP is on trend and economic growth remains strong.

The GDP of the Principality of Monaco stands at 9.24 billion euros in 2023, up from 8.36 billion in 2022. Its inflation-adjusted growth is therefore 5.0%. Since 2014, GDP has grown by almost 50%, compared with 27% worldwide, 14% in the eurozone and around 10% in France.

Figure 1: Ten-year change in GDP by geographical area



Sources: World Bank (extracted on 22/10/2024), Monaco Statistics

¹ Adjusted for inflation

² See Appendix: Real GDP growth in the world

1.2. National GDP results

1.2.1. Summary of results

The Principality of Monaco's GDP amounts to 9.24 billion euros in 2023, compared with 8.36 billion in 2022 (cf. Table 1). Economic growth remains high (+5.0% adjusted for inflation), although lower than the previous year (cf. Table 2). Over the decade, GDP grew by 46.5%, corresponding to an average annual growth rate of 4.3%.

Because of the method used in Monaco to define GDP as an indicator of income (cf. 2.1.4. Determining the GDP), it is divided into four components (cf. Table 3):

- Earnings before interest, taxes, depreciation and amortisation (EBITDA) can be defined as the "remuneration" (productive income) of companies. At 4.4 billion euros, it represents 45.0% of nominal GDP excluding subsidies in 2023. Up by 9.0%, it is still the largest contributor to national value added.
- Compensation of employees, which corresponds to the redistribution of annually created wealth in the form of salaries and social security contributions, amounts to almost 4 billion euros this year (40.6% of GDP excluding subsidies). It grew by around 10%, which is more than twice as much as the number of active employees³.
- At 1.4 billion euros (+21.6%), the share of taxes in GDP excluding subsidies rose by 3 points to 14.4%.
- Subsidies also increased by 22.1% to almost 500 million euros.

Sectoral trends are mixed, with nominal variations ranging from around -6% to +30%. Seven Major Economic Sectors (MES) increased their GDPs compared to the previous year, while five contracted (cf. Table 4).

The main contributors to GDP continue to be Scientific and technical activities, administrative and support service activities, Financial and insurance activities and Wholesale trade. They now account for more than half of the wealth created in the area (cf. Figure 5).

GDP per capita is set to approach 100 000 euros in 2023, after real growth⁴ of 2.4% (cf. Table 6).

GDP per employee, which can be considered as an indicator of economic productivity, stands at 145,625 euros this year. Adjusted for inflation, it is stable compared with 2022, as is the gap with its French equivalent (cf. Table 7).

³ Employee who worked at least one hour during December of the year concerned

⁴ Adjusted for inflation

1.2.2. Amount and evolution of GDP

GDP is expressed in "nominal terms", i.e., in current euros. Growth is calculated from the evolution of GDP in nominal terms corrected for inflation (GDP in real terms). The index used for this correction is calculated annually by INSEE, the French National Institute for Statistics and Economic Studies (cf. 2.2.4. GDP in current euros and in constant euros). In 2024, the year 2020 replaced the year 2014 as the reference year (base 100). This change has marginally altered the amount of real GDPs and their evolution.

Table 1: Ten-year change in nominal GDP⁵

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
GDP	5,321.8	5,646.4	5,846.3	5,692.1	6,083.5	6,595.5	5,892.8	7,290.9	8,357.1	9,244.1

Unit: million euros

Source: Monaco Statistics

Table 2: Ten-year change in real GDP⁶

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Nominal GDP	5,321.8	5,646.4	5,846.3	5,692.1	6,083.5	6,595.5	5,892.8	7,290.9	8,357.1	9,244.1
GDP Price index	92.8	93.9	94.3	94.9	95.9	97.1	100.0	101.2	104.5	110.0
Real GDP	5,734.8	6,016.4	6,197.4	5,998.7	6,340.5	6,792.0	5,892.8	7,202.9	7,998.6	8,402.0
Real GDP growth		4.9%	3.0%	-3.2%	5.7%	7.1%	-13.2%	22.2%	11.0%	5.0%

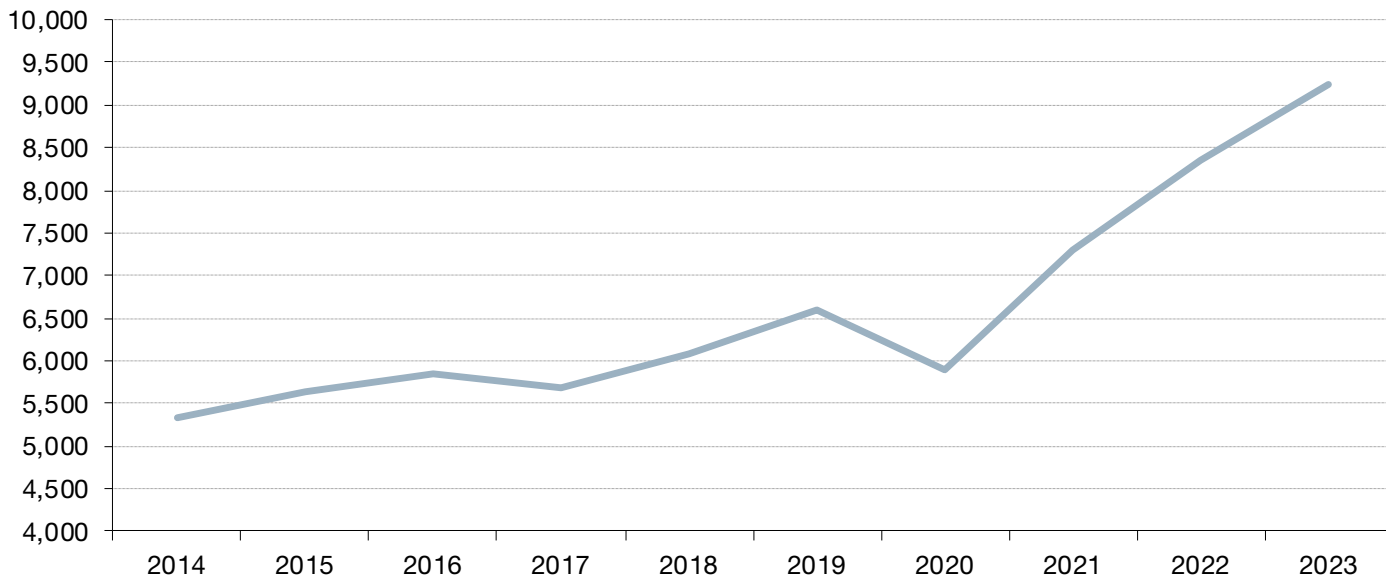
Unit: million euros

Sources: INSEE, Monaco Statistics

The Principality of Monaco's GDP reaches 9.24 billion euros in 2023. It grows by 5.0% in volume terms (i.e. an increase of more than 400 million euros excluding inflation), despite the significant rise in the price index. Unsurprisingly, the level of wealth created follows the trend of the Monegasque economy observed through the other main indicators, namely revenue (+5.5% in 2023), foreign trade (+5.4%) and salaried employment (+3.5%).

Compared with 2014, real GDP growth is 46.5%, equivalent to an average annual growth rate of 4.3%. Most of this ten-year growth (42.6%) is achieved after the health crisis (between 2020 and 2023), a period when the compound annual growth rate reached 12.6% in volume terms.

Figure 2: Ten-year change in GDP in millions of current euros



Unit: million euros

Source: Monaco Statistics

⁵ Nominal GDP is expressed in "current euros".

⁶ Real GDP is expressed in "constant euros" with a base 100 in 2020. It is adjusted for inflation by the Gross domestic product and its components price indexes published by INSEE.

1.2.3. GDP structure⁷

In 2023, all components of GDP are higher than in the previous year. Only subsidies reduce the amount of GDP, as they have a negative impact on the aggregate in the income approach used in the Principality (cf. 2.1.4. Determining the GDP).

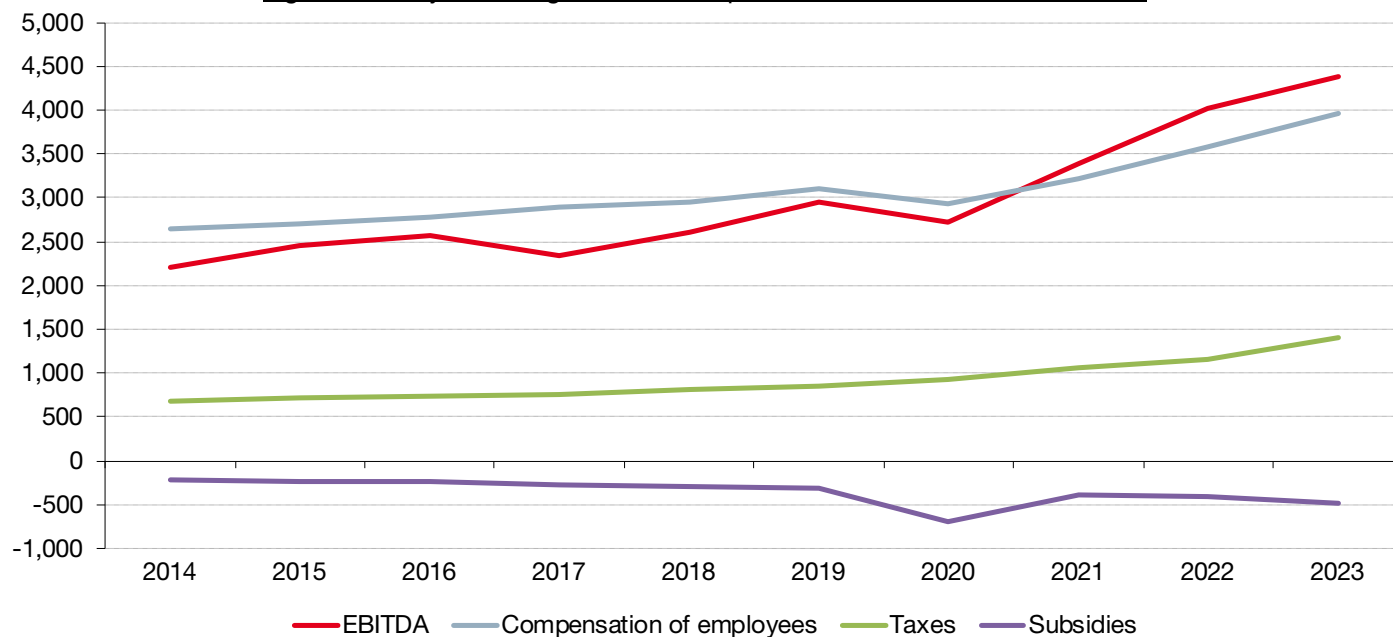
Table 3: Ten-year change in GDP structure in millions of current euros

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Var 22/23
EBITDA	2,211.0	2,456.5	2,569.9	2,333.7	2,600.3	2,957.5	2,725.9	3,395.0	4,015.1	4,374.7	9.0%
Compensation of employees	2,649.6	2,694.7	2,772.0	2,884.9	2,959.6	3,096.8	2,925.3	3,220.1	3,589.2	3,955.7	10.2%
Taxes	685.4	726.2	746.0	746.5	811.4	858.8	927.5	1,055.9	1,152.3	1,401.6	21.6%
Subsidies	-224.1	-231.0	-241.6	-272.9	-287.7	-317.5	-685.9	-380.0	-399.5	-487.9	22.1%
Nominal GDP	5,321.8	5,646.4	5,846.3	5,692.1	6,083.5	6,595.5	5,892.8	7,290.9	8,357.1	9,244.1	10.6%

Unit: million euros

Source: Monaco Statistics

Figure 3: Ten-year change in GDP components in millions of current euros



Unit: million euros

Source: Monaco Statistics

Earnings before interest, taxes, depreciation and amortisation (EBITDA) amounts to 4.4 billion euros in 2023, after an increase of 9.0% compared to the previous year. Although this growth remains strong, it is less than half that of 2022 (+18.3%). With a share of 45.0%, EBITDA remains the main component of GDP excluding subsidies.

At almost 4 billion euros, compensation of employees follows closely behind EBITDA. It grew by more than 10% this year, reaching a share of 40.6% of GDP excluding subsidies. What's more, this year's growth is once again well above that of Monaco's (public and private) salaried population (+4.9%).

Taxes rose significantly this year, by 21.6% to 1.4 billion euros. This was mainly due to an increase in value added tax (VAT) income, in particular VAT on real estate. Their share in wealth creation excluding subsidies climbed from 13.2% to 14.4% this year.

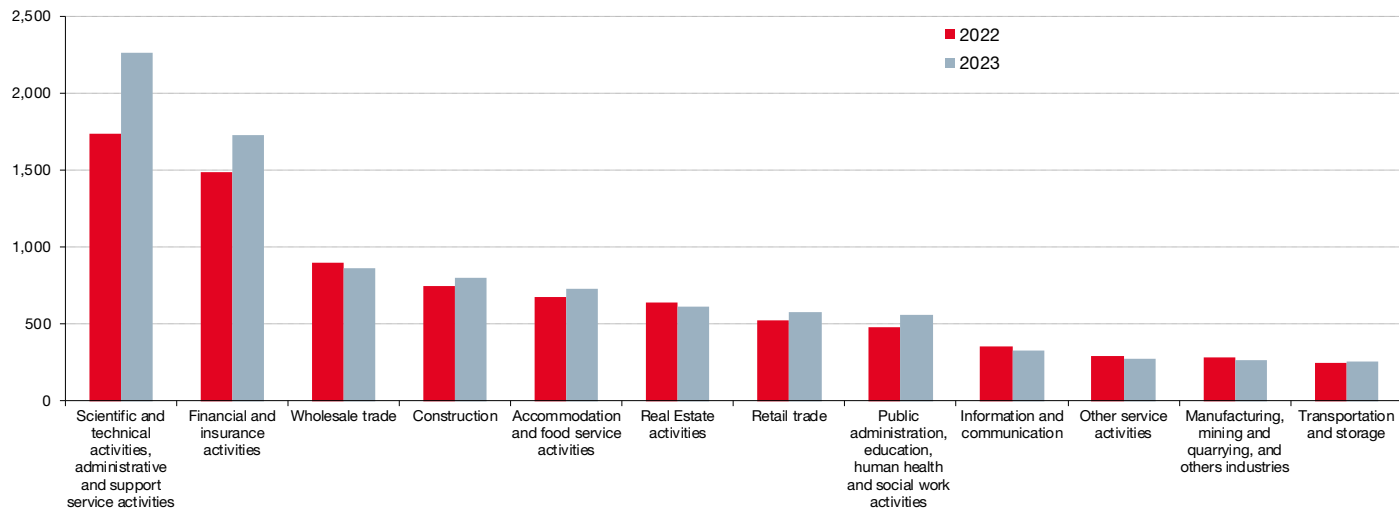
While the growth of subsidies has been relatively constant over the last ten years, with the exception of the health crisis, it accelerates in 2023 (+22.1%) to reach 487.9 million euros.

⁷ Variations within this sub-section are expressed in nominal terms and therefore do not take account of inflation.

1.2.4. GDP by major economic sector⁸

The breakdown by business sector reveals some disparities in the wealth created. While some of the twelve MESs that make up the Monegasque economy are recording double-digit growth rates, others have remained relatively stable and still others have seen their GDP shrink by as much as around 6%.

Figure 4: GDP by major economic sector in 2022 and 2023 in millions of current euros



Unit: million euros

Source: Monaco Statistics

Table 4: Ten-year change in GDP by major economic sector in millions of current euros

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Var 22/23	Share 2023
Scientific and technical activities, administrative and support service activities	835.5	837.5	866.7	967.0	1,090.5	1,181.7	1,213.4	1,550.1	1,738.8	2,256.9	29.8%	24.4%
Financial and insurance activities	898.1	950.2	942.3	1,010.6	968.5	1,105.6	1,085.1	1,160.4	1,484.3	1,722.7	16.1%	18.6%
Wholesale trade	483.9	541.9	510.3	479.6	565.8	551.4	514.1	728.6	899.9	857.8	-4.7%	9.3%
Construction	415.5	718.8	837.9	494.3	576.8	656.8	689.4	665.7	743.5	795.4	7.0%	8.6%
Accommodation and food service activities	347.0	374.2	360.3	466.5	511.7	605.9	198.8	489.4	675.3	731.2	8.3%	7.9%
Real Estate activities	540.3	494.6	522.2	566.8	616.4	610.0	570.6	590.0	635.6	611.4	-3.8%	6.6%
Retail trade	355.8	334.3	343.4	346.0	336.1	357.7	293.3	485.9	526.9	574.8	9.1%	6.2%
Public administration, education, human health and social work activities	409.6	404.3	399.6	411.2	416.8	562.1	500.9	537.1	478.8	559.7	16.9%	6.1%
Information and communication	244.2	250.2	271.8	302.4	314.7	337.3	293.5	342.7	352.9	331.2	-6.1%	3.6%
Other service activities	343.3	266.8	370.6	194.6	257.2	198.8	174.5	294.7	289.6	276.3	-4.6%	3.0%
Manufacturing, mining and quarrying, and others industries	256.6	274.5	229.4	234.4	223.0	203.0	188.4	249.0	282.4	269.4	-4.6%	2.9%
Transportation and storage	192.1	199.1	192.0	218.6	206.0	225.2	170.8	197.5	249.3	257.4	3.3%	2.8%
GDP	5,321.8	5,646.4	5,846.3	5,692.1	6,083.5	6,595.5	5,892.8	7,290.9	8,357.1	9,244.1	10.6%	100%

Unit: million euros

Source: Monaco Statistics

Scientific and technical activities generate almost a quarter of GDP in 2023 and thus remain the most important MES in the Principality. It also recorded the strongest growth (almost 30%), exceeding 2 billion euros in wealth created in 2023. This significant increase is mainly driven by Activities of head offices, both in terms of EBITDA and compensation of employees. Over the decade, nominal GDP in the MES has almost tripled.

Although GDP growth in Financial and insurance activities slowed by more than 10 points compared with the previous year, it still reached a high level this year (+16.1%). More specifically, it was the EBITDA of Other monetary intermediation that drove this increase. At 1.7 billion euros, this MES accounts for almost a fifth of total GDP.

Although Wholesale trade is still the third largest contributor to the wealth created in the Principality (857.8 million euros, or 9.3% of the total), its GDP in value terms fell by almost 5% this year. The increase in compensation of employees was not sufficient to offset the decline in EBITDA.

⁸ Variations within this sub-section are expressed in nominal terms and therefore do not take account of inflation.

The Construction sector is approaching 800 million euros in wealth created in 2023, buoyed by sustained growth of 7.0%. This was due in particular to higher employee remuneration in Construction of buildings.

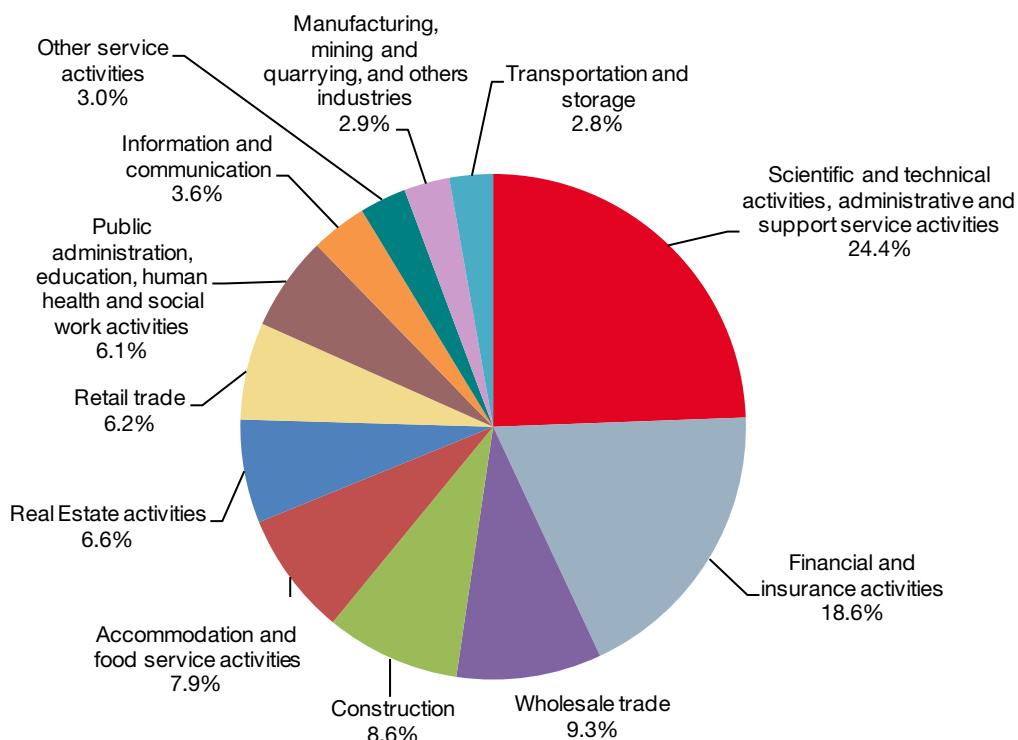
Accommodation and food service activities and Retail trade were particularly hard hit by the health crisis in 2020 and experienced a strong economic rebound the following year. Their growth rates continue to remain high in 2023 (+8.3% and +9.1% respectively). Furthermore, the level of wealth created in Accommodation and food service activities has more than doubled in ten years.

GDP in Public administration, education, human health and social work activities returns to its level of 2019-2021, after having fallen by almost 60 million euros in 2022.

Despite an increase in the compensation of employees in Real Estate activities, Buying and selling of own real estate and Letting of dwellings have led to a reduction of almost 4% in the wealth created by the sector.

The three other MESSs where the level of wealth creation fell were Information and communication, Other service activities and Manufacturing, mining and quarrying, and others industries.

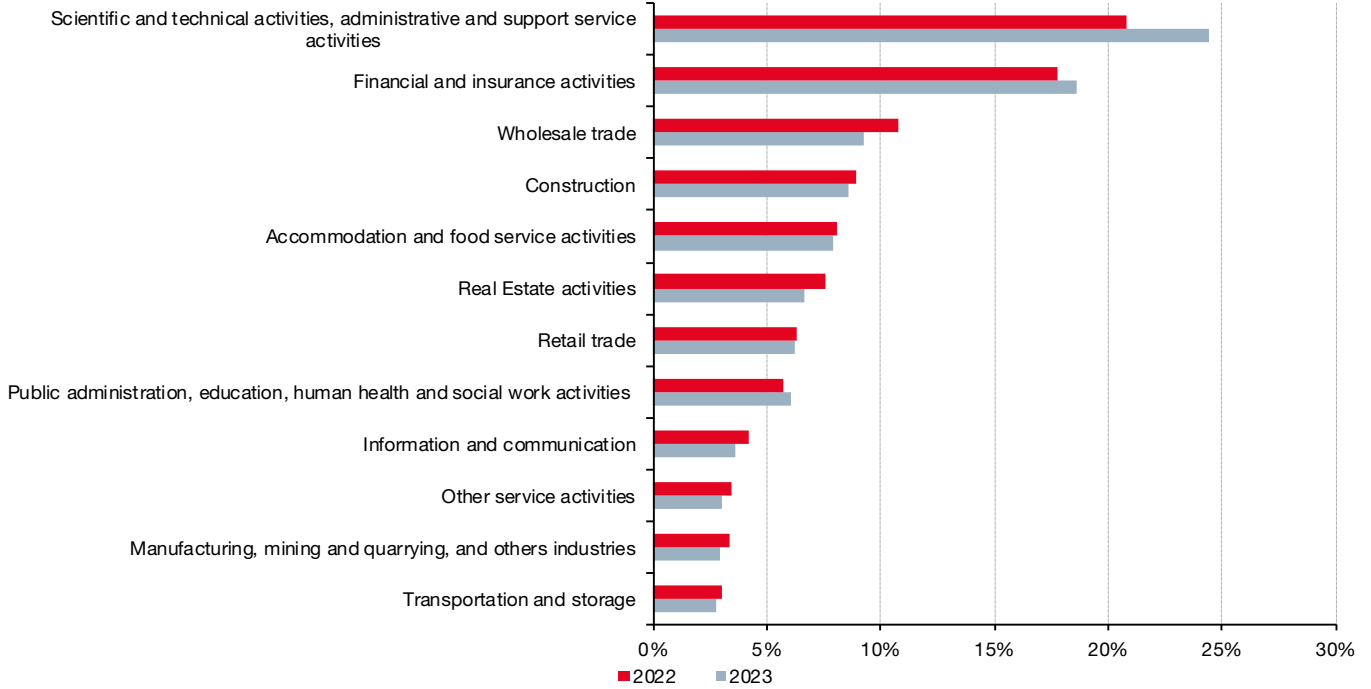
Figure 5: Sectoral distribution of 2023 GDP



Source: Monaco Statistics

Scientific and technical activities, administrative and support service activities, Financial and insurance activities and Wholesale trade are still the three main contributors to Monaco's GDP, and their combined share has risen once again (+3 points). From now on, more than half (52.3%) of the wealth created in Monaco is due to these three MESSs.

Figure 6: Change in the sectoral distribution of GDP



Reading: The share of GDP from Financial and insurance activities in total GDP is 18.6% in 2023, compared with 17.8% in 2022.

Source: Monaco Statistics

Only three business sectors have seen their share of national value added increase compared to 2022. These are Scientific and technical activities, administrative and support service activities (+3.6 points), Financial and insurance activities (+0.9 points) and Public administration, education, human health and social work activities (+0.3 points). Nevertheless, the ranking of the MESs according to their importance in total GDP remains completely unchanged in 2023.

1.3. GDP per capita and per employee

The situation of the Principality of Monaco is atypical in many respects, particularly in terms of its resident and employed population.

For 38,367 residents in 2023, there are 63,479 active employees, 86.9% of whom live outside Monaco. This highly unusual situation, which is even unique in the world, makes international comparisons tricky and the use of certain traditional international indicators inappropriate. This is particularly true of the traditional GDP per capita indicator.

However, in order to situate the Principality in its environment and in an international context, two types of GDP per individual are computed "ad hoc".

On the one hand, there is a GDP per capita, calculated since 2005, and on the other hand, a GDP per employee, measured since 2010.

1.3.1. GDP per capita: presence on the economic territory

The European System of Accounts (ESA) uses the resident population of the economic territory to calculate GDP per inhabitant. However, it is important to take account of local economic specificities.

In the case of the Principality, 86.9% of the employed population are "commuters" who do not reside on the Monegasque territory. Given their economic significance and their daily participation in the creation of wealth, it appeared relevant to determine a reference population for calculating the GDP per capita.

The reference population retained comprises two components: the resident population and the non-resident population employed on the economic territory.

Table 5: Ten-year change in the reference population for the calculation of GDP per capita

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Var 22/23
Residents (all nationalities)	37,350	37,900	37,550	38,350	38,300	38,150	38,350	39,100	38,950	38,367	-1.5%
Non-resident employees	43,218	42,931	43,559	45,497	47,581	49,261	47,115	49,862	52,260	55,169	5.6%
<i>of which private employees outside MC</i>	41,094	40,726	41,306	43,155	45,158	46,759	44,503	47,151	49,485	52,280	5.6%
<i>of which public employees outside MC</i>	2,124	2,205	2,253	2,342	2,423	2,502	2,612	2,711	2,775	2,889	4.1%
Total reference population	80,568	80,831	81,109	83,847	85,881	87,411	85,465	88,962	91,210	93,536	2.5%

Source: Monaco Statistics

From 2023 onwards, the new register-based census method introduced by Monaco Statistics enables the resident population to be determined exhaustively. Including non-resident employees, the total reference population in 2023 is 93,536 (+2,326 compared to 2022).

Table 6: Ten-year change in GDP per capita

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Nominal GDP in million euros	5,321.8	5,646.4	5,846.3	5,692.1	6,083.5	6,595.5	5,892.8	7,290.9	8,357.1	9,244.1
Total population selected	80,568	80,831	81,109	83,847	85,881	87,411	85,465	88,962	91,210	93,536
Nominal GDP per capita	66,053	69,855	72,080	67,887	70,837	75,454	68,950	81,956	91,625	98,830
<i>GDP Price index</i>	<i>92.8</i>	<i>93.9</i>	<i>94.3</i>	<i>94.9</i>	<i>95.9</i>	<i>97.1</i>	<i>100.0</i>	<i>101.2</i>	<i>104.5</i>	<i>110.0</i>
Real GDP per capita	71,180	74,432	76,408	71,544	73,829	77,701	68,950	80,966	87,694	89,827
Real GDP per capita growth		4.6%	2.7%	-6.4%	3.2%	5.2%	-11.3%	17.4%	8.3%	2.4%

Sources: INSEE, Monaco Statistics

GDP per capita is approaching 100,000 euros in 2023. Compared with 2022, its real growth is 2.4%. It is therefore lower than that of GDP in constant euros, due to the 2.5% increase in the reference population.

Between 2014 and 2023, GDP per capita grew by 26.2% in volume terms, corresponding to an average increase of 2.6% each year.

1.3.2. GDP per employee⁹

GDP per employee is an indicator that can be used as an element for measuring and comparing economic productivity.

Table 7: Ten-year change in GDP per employee

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Nominal GDP in million euros	5,321.8	5,646.4	5,846.3	5,692.1	6,083.5	6,595.5	5,892.8	7,290.9	8,357.1	9,244.1
Total population selected	52,239	51,956	52,447	54,303	56,311	57,870	55,383	58,157	60,519	63,479
Nominal GDP per employee	101,875	108,677	111,471	104,822	108,034	113,972	106,402	125,367	138,090	145,625
GDP Price index	92.8	93.9	94.3	94.9	95.9	97.1	100.0	101.2	104.5	110.0
Real GDP per employee	109,781	115,799	118,164	110,468	112,597	117,366	106,402	123,853	132,167	132,359
Real GDP per employee growth		5.5%	2.0%	-6.5%	1.9%	4.2%	-9.3%	16.4%	6.7%	0.1%

Sources: INSEE, Monaco Statistics

In 2023, GDP per Monegasque employee stands at 145,625 euros. After adjusting for inflation, it is stable compared to the previous year. In fact, the increase in real GDP (+5.0%) is roughly the same as that of the employed population (+4.9%).

Table 8: Ten-year change in French real GDP per employee¹⁰

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Var 22/23
Real GDP in billion euros (base 2014)	2,320.9	2,345.6	2,365.8	2,415.1	2,454.9	2,504.6	2,318.3	2,477.8	2,541.5	2,565.3	0.9%
Employed population in thousands (France)	24,669	24,772	24,958	25,279	25,426	25,808	26,557	26,557	26,891	27,064	0.6%
Real GDP per employee	94,082	94,689	94,791	95,537	96,549	97,050	87,294	93,302	94,514	94,788	0.3%

Sources: INSEE, Monaco Statistics

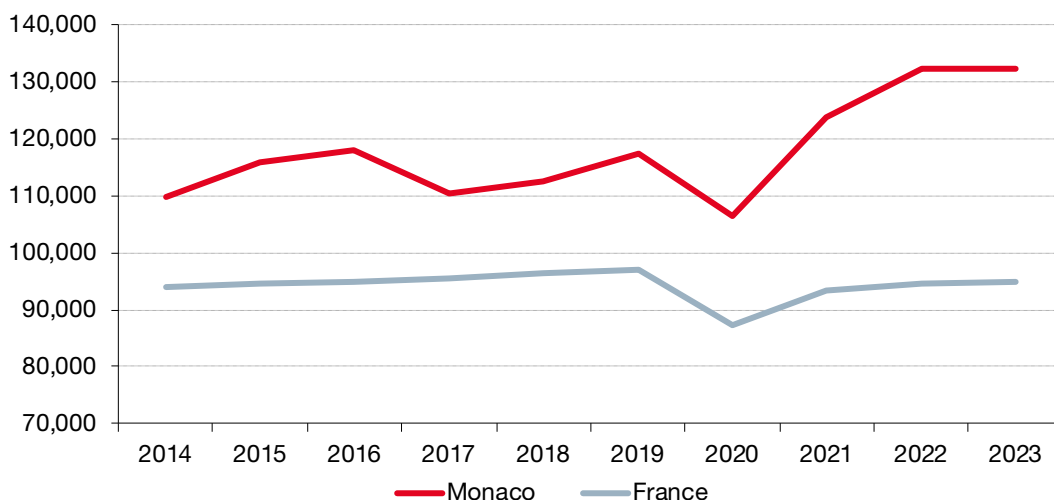
Table 9: Ten-year change in real GDP per employee in Monaco and France

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Var 22/23
Monaco	109,781	115,799	118,164	110,468	112,597	117,366	106,402	123,853	132,167	132,359	0.1%
France	94,082	94,689	94,791	95,537	96,549	97,050	87,294	93,302	94,514	94,788	0.3%
Difference Monaco / France	16.7%	22.3%	24.7%	15.6%	16.6%	20.9%	21.9%	32.7%	39.8%	39.6%	

Unit: euros, base 100 in 2020

Sources: INSEE, Monaco Statistics

Figure 7: Ten-year change in real GDP per employee in Monaco and France



Unit: euros, base 100 in 2020

Sources: INSEE, Monaco Statistics

GDP per employee in the Principality remains higher in 2023 than French GDP per employee. Although this indicator is stable in Monaco compared with 2022, it has not risen much more in France (+0.3%). As a result, the gap remains more or less the same, at almost 40% higher in favour of the Principality (37,571 euros more than in France).

⁹ Active employees who worked at least one hour during December of the year concerned

¹⁰ French data for 2022 and 2023 are provisional.

2. Methodology and calculation system of the GDP

2.1. Regulatory framework and adopted methodology

2.1.1. The European System of Accounts 1995 (ESA 95)

The European System of National and Regional Accounts (ESA 95), which came into effect in 1999 and is essentially consistent with the United Nations System of National Accounts (SNA 1993), defines a framework that ensures the consistency of evaluations within the European Union.

In the interests of comparability and transparency vis-à-vis the international community, and to the extent that information is available, the Principality has based itself on the ESA 95 to develop the tools for measuring national wealth, namely the Gross Domestic Product (GDP) and the Gross National Income (GNI)¹¹.

2.1.2. The European System of Accounts 2010 (ESA 2010)

The ESA 95 has gradually been replaced by the ESA 2010. For several countries (notably France and Switzerland), 2014 was the year in which the national accounts were revised, and the first ESA 2010 aggregates were published.

The main changes made were the inclusion of research and development expenditure and military expenditure.

Research and development expenditure in ESA 1995 is considered as current expenditure and recorded as intermediate consumption. They have the consequence of reducing the country's GDP. Yet this expenditure has a lasting impact, and its influence can be measured over several years. Therefore, according to the ESA 2010, it should be considered as investment, which increases the level of GDP.

Military expenditure, on the other hand, is treated in ESA 1995 as intermediate Government consumption if the military equipment cannot be used for civilian purposes (e.g. fighter planes). In ESA 2010, it was decided to record all arms expenditure as an investment if the life span is longer than one year.

Other methodological or conceptual changes were also introduced by the new European System of Accounts. Not all of them are yet methodologically complete, such as the estimation of the production of services by non-life insurers and reinsurers.

The particular situation of the Principality of Monaco (customs and monetary union with France, absence of a system of national accounts) leads to the absence of certain economic information.

This explains the fact that the calculation of GDP in the Principality does not take into account certain data. This is the case in particular for fictitious rents (estimate of the value of the rents that the inhabitants of a dwelling would have paid if they had been tenants and not owners), which are retained as part of GDP according to the ESA 2010 and never estimated in Monaco.

This reason also explains why the changes made by the ESA 2010 are not included in the calculation of GDP in Monaco, which continues to refer to the 1995 version of the ESA.

The non-inclusion of components of GDP in the Principality of Monaco undermines the estimate.

¹¹ Gross national income is the sum of all primary (gross) income received by resident economic units (EBITDA, gross mixed income, compensation of employees, taxes net of subsidies on production and imports, property income received less paid).

It is equal to gross domestic product (GDP) minus primary income paid to non-resident economic units and plus primary income received from the rest of the world by resident units.

It provides a measure of the primary income received by all resident economic units and allows for international comparisons.

Source: INSEE

2.1.3. GDP at the core of economic reasoning

GDP is one of the aggregates for determining national wealth and its evolution, i.e. economic growth.

Together with Gross National Income (GNI), it constitutes a synthesis of the theoretical considerations of macroeconomics and the practical considerations of the European national accounting framework.

2.1.4. Determining the GDP

GDP can be apprehended in three ways, which are equivalent in terms of results:

- **as an activity indicator** (output approach)
GDP is the sum of the gross value added (GVA) of the various institutional sectors or of the various business sectors, less subsidies on products, i.e.:
GDP = sum of GVA
+ Taxes on products
- Subsidies on products
- **as a product indicator** (expenditure approach)
GDP is the value of goods and services produced by resident units and available for final use. It is calculated as the sum of final uses of goods and services by resident institutional units.
- **as an income indicator** (income approach)
GDP is equal to the sum of primary income distributed by resident producer units minus subsidies.
GDP = Compensation of employees
+ EBITDA and mixed income
+ Taxes on production
- Subsidies

The Principality has retained the GDP approach as an income indicator insofar as this approach does not imply the immediate implementation of national accounting. The major accounting balances make it possible to understand the macroeconomic consistency of this choice.

GDP calculated in this way is evaluated in "nominal terms", i.e. in current euros.

To evaluate the "real" growth of the aggregates, it is important to isolate the effect due to price changes from the "volume" effect. To do this, we deflate the GDP in "nominal terms" by the average variation in prices observed during the past year. This gives the "real" GDP.

The price index used for these calculations is that for France published by INSEE. The real GDP is calculated as a function of the change in the consumer price index, taking 2020 as the base year.

Calculation scope: the residence

The calculation scope is the national economy. This includes all resident units, i.e. units with an economic interest on the economic territory.

- The determination of the field of observation implies the definition of an economic territory comprising:
 - the geographical territory of that country;
 - the boundaries of free zones, warehouses and factories under customs control;
 - the national airspace, territorial waters and the continental shelf in international waters over which the country has exclusive rights;
 - territorial enclaves;
 - deposits in international waters operated by resident units.
- A time of observation: the year
 - a unit is recognised as having an economic interest in the territory if it carries out economic activities there for a relatively long period of time, i.e. for a period of one year or more. The nationality criterion does not apply; any other unit is classified as non-resident.
- The division of the economic territory into different classifications: economic agents, economic transactions, accounts.

2.2. Procedure implemented in the Principality

In order to meet the objectives set out above, the Government set up a working group on this subject in 2005 with the aim of defining the given territory and identifying the economic agents. The aim is to determine the statistical elements necessary for the elaboration of financial aggregates, in particular by setting up a national statistical survey that is essential for the elaboration of GDP.

Monaco Statistics (Institut Monégasque de la Statistique et des Études Économiques), created by Sovereign Order No. 3.095 of 24/01/2011 and a derivative of the Statistics and Economic Studies Division, is now naturally in charge of calculating the Principality's GDP.

2.2.1. Determining the calculation algorithms

The main objective of this vast project was to define the algorithms for calculating economic aggregates (cf. 2.3. GDP calculation algorithm) and to make all the information collected consistent.

2.2.2. Extrapolation method used for the GDP results

Since the implementation of the GDP calculation in 2005, data relating to EBITDA of Monegasque economic agents has been obtained through a survey.

Of the 11,395 economic agents concerned in 2023, the rate of files processed was 79.3% (compared with 78.6% in 2022). To approximate the overall level of EBITDA, and to compensate for the remaining non-response, statistical extrapolation procedures are used (with a constant methodology since the beginning). Some information concerning the non-responding companies could nevertheless be exploited, in particular the legal form, the sector and sub-sector of activity as well as the number of employees for some of them.

Firstly, the explanatory variables for EBITDA were determined based on the information provided by the respondent companies. Thus, statistical analyses made it possible to determine five explanatory variables:

1. the company size: the 100 companies with the highest revenues were treated differently. The aim was not to reproduce the atypical nature of these companies in the set of non-responding companies;
2. the legal form;
3. the business sector to which the company belongs;
4. the number of employees in the company;
5. the wage bill.

Nevertheless, the information available on the non-respondent companies did not allow us to exploit all of these explanatory variables. For example, the statistical analyses show that the number of employees seems to be an explanatory variable for EBITDA. However, this information could not be exploited insofar as the number of employees is rarely available for non-responding companies. The work was therefore refocused on the variables known about these entities, i.e. the legal form, the business sector and the business sub-sector.

Secondly, the results of the discriminant analysis were corrected for the bias caused by the existence of atypical values. Thus, for a legal form and a business sub-sector, 90% of the data were retained for extrapolation. The aim was to have a less volatile estimate of EBITDA and one that was not biased by singular firms in the class considered. After correcting the average estimates of EBITDA by class, the extrapolation could be carried out using the information available from the non-responding companies.

2.2.3. Determining GDP by sector

Within the framework of the analyses carried out by most of the Monegasque administrations, 12 business sectors within the Principality's economic fabric have been identified.

Structural hypotheses for the calculation of GDP by sector:

As regards wages, Monaco Statistics relies on the data provided by the Caisses Sociales de Monaco.

The EBITDA of each of the sectors was extrapolated using the same method as that used for the overall calculation of GDP (cf. above).

Subsidies were allocated and weighted to each sector according to their nature and purpose.

Regarding the distribution of taxes by business sector, several analyses were conducted.

On this basis, the following allocation rules were established:

- Concerning collected VAT, a small part is made up of an account "Not broken down by sector". It was accepted that it was possible to apply a breakdown key to this item, corresponding to that of the known part of the VAT collected by sector.
- Similarly, it was accepted that this breakdown key could be applied to all the other items listed below:
 - French payments in accordance with the sharing account;
 - Import duties;
 - Annual ship naturalisation fees;
 - Domestic consumption tax on energy products (T.I.C.P.E.) and consumption duties on tobacco;
 - Tobacco monopoly profits;
 - Leasehold duty;
 - Stamp duties;
 - Taxes on insurance agreements;
 - Consumption duty on alcohol;
 - Duties on company cars.
- On the other hand, it was agreed to allocate the budget items "Real estate VAT" and "Transfer duties for valuable consideration" to the real estate sector.

2.2.4. GDP in current euros and in constant euros

To evaluate the real GDP, a revaluation/inflation index was applied to the 2020 aggregates. Given the characteristics and geographical situation of the Principality's territory, it was agreed to use the data and assumptions used to evaluate French GDP and communicated by INSEE.

The annual accounts at constant prices (also known as "in real terms") of the base 2020 are presented "at the prices of the previous year, chained, base 2020" (1.103 Gross domestic product and its components price indexes¹²).

The objective of this presentation is to provide users of aggregates with the best time series at constant prices. Indeed, the evolution of an aggregate at constant prices is most interpretable when the year of constant prices is fairly close to the year of prices under review.

The changes in the aggregates at constant prices of the annual national accounts for a given year are calculated by taking the aggregates at current prices of the previous year as a basis and applying to them the changes in prices of the previous year. These series are then named 100 in 2020 and multiplied by the current price value of the aggregate in 2020, so that users have the order of magnitude of the aggregate available at the same time.

2.3. GDP calculation algorithm

2.3.1. Gross Domestic Product

$$\begin{aligned} \text{GDP} &= \text{Compensation and social charges (D1)} \\ &+ \text{EBITDA and mixed income} \\ &+ \text{Taxes on production (D2)} \\ &- \text{Subsidies (D3)} \end{aligned}$$

2.3.2. Compensation and social charges (D1)

$$\begin{aligned} \text{D1} &= \text{Gross wages \& salaries in cash} \\ &+ \text{Effective social contributions payable by employers} \\ &+ \text{Imputed social contributions payable by employers} \end{aligned}$$

¹² <https://www.insee.fr/en/statistiques/8068801>

2.3.3. Earnings Before Interest, Taxes, Depreciation and Amortisation, and mixed income

If the declarant fills in the detailed Q1 questionnaire:

EBITDA = Revenue before tax
+ Capitalised production
- Amount of purchases
± Inventory changes
- Consumption for the financial year
+ Operating subsidies
- Taxes, duties and similar payments
- Gross salaries and remuneration
- Total social security contributions

If the declarant fills in the simplified Q2 questionnaire:

EBITDA = Revenue / Fees and/or treatments charged
- Purchases and expenses for the financial year
± Inventory changes
+ Operating subsidies
- Gross salaries and remuneration
- Total social security contributions

2.3.4. Taxes on production (D2)

D2 = VAT
+ Taxes on imports (D212)
+ Other taxes on products (D214)
+ Other taxes on production

VAT

VAT = D211
+ Net VAT collected in the Principality (excluding real estate VAT)
± French payments in accordance with the sharing account

Taxes on imports

D212 = Import duties
+ Annual naturalisation duty on ships

Other taxes on products

D214 = T.I.C.P.E. and consumption duties on tobacco
+ Tobacco monopoly profits
+ Transfer duties for valuable consideration
+ Leasehold duty
+ Stamp duty
+ Tax on insurance agreements
+ Real estate VAT
+ Consumption duty on alcohol

Other taxes on production

D29 = Taxes related to the ownership or use of real estate, machinery, vehicles and equipment. Taxes on wage bill, on business licence, on pollutant emissions

2.3.5. Subsidies (D3)¹³

D3 = Town hall operating grant
+ CHPG operating grant
+ Other public institutions' operating grants
+ Subsidies in the educational and cultural field
+ Grants in the public policies field
+ Grants in the social and humanitarian field
+ Aid for sport
+ Organisation of events in the Principality

¹³ D3 = (D393 + D399)

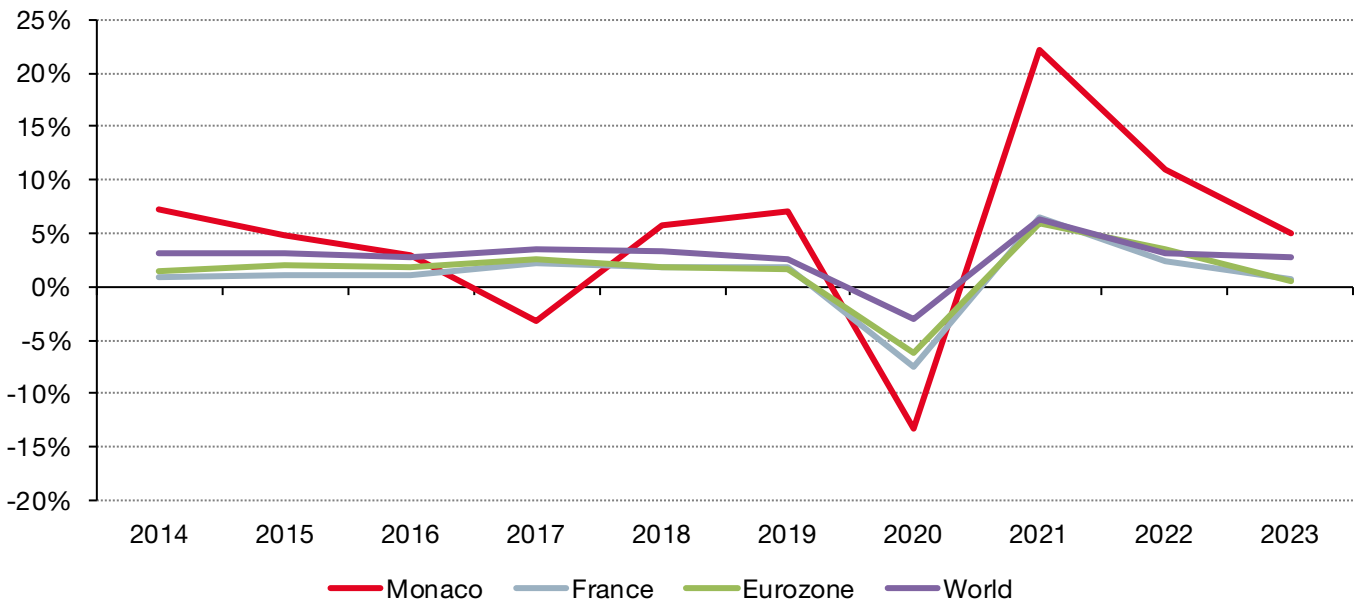
Appendix: Real GDP growth in the world

Table 10: Real GDP growth rates in several countries around the world

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
India	7.4%	8.0%	8.3%	6.8%	6.5%	3.9%	-5.8%	9.7%	7.0%	7.6%
Malta	7.6%	9.6%	3.4%	10.9%	7.4%	7.1%	-8.2%	12.5%	8.1%	5.6%
Ukraine	-10.1%	-9.8%	2.4%	2.4%	3.5%	3.2%	-3.8%	3.4%	-28.8%	5.3%
China	7.4%	7.0%	6.8%	6.9%	6.7%	6.0%	2.2%	8.4%	3.0%	5.2%
Viet Nam	6.4%	7.0%	6.7%	6.9%	7.5%	7.4%	2.9%	2.6%	8.1%	5.0%
Monaco	7.2%	4.9%	3.0%	-3.2%	5.7%	7.1%	-13.2%	22.2%	11.0%	5.0%
Türkiye	4.9%	6.1%	3.3%	7.5%	3.0%	0.8%	1.9%	11.4%	5.5%	4.5%
Algeria	4.1%	3.2%	3.9%	1.5%	1.4%	0.9%	-5.0%	3.8%	3.6%	4.1%
Iceland	1.7%	4.4%	6.3%	4.2%	4.9%	1.9%	-6.9%	5.1%	8.9%	4.1%
Egypt	2.9%	4.4%	4.3%	4.2%	5.3%	5.6%	3.6%	3.3%	6.6%	3.8%
Russian Federation	0.7%	-2.0%	0.2%	1.8%	2.8%	2.2%	-2.7%	5.6%	-2.1%	3.6%
Morocco	2.7%	4.3%	0.5%	5.1%	3.1%	2.9%	-7.2%	8.0%	1.3%	3.2%
Croatia	-0.3%	2.5%	3.6%	3.4%	3.0%	3.4%	-8.5%	13.0%	7.0%	3.1%
Australia	2.6%	2.2%	2.8%	2.3%	2.9%	2.2%	-0.3%	2.1%	4.3%	3.0%
World	3.1%	3.1%	2.8%	3.5%	3.3%	2.6%	-2.9%	6.3%	3.1%	2.7%
United States	2.5%	2.9%	1.8%	2.5%	3.0%	2.5%	-2.2%	5.8%	1.9%	2.5%
Serbia	-1.6%	1.8%	3.3%	2.1%	4.5%	4.3%	-0.9%	7.7%	2.5%	2.5%
Spain	1.4%	3.8%	3.0%	3.0%	2.3%	2.0%	-11.2%	6.4%	5.8%	2.5%
Bahrain	4.4%	2.9%	3.5%	3.8%	2.3%	2.2%	-4.6%	2.6%	4.9%	2.5%
Cyprus	-1.8%	3.4%	6.6%	5.7%	5.6%	5.5%	-3.4%	9.9%	5.1%	2.5%
Portugal	0.8%	1.8%	2.0%	3.5%	2.8%	2.7%	-8.3%	5.7%	6.8%	2.3%
Romania	4.1%	3.2%	2.9%	8.2%	6.0%	3.9%	-3.7%	5.7%	4.1%	2.1%
Greece	0.5%	-0.2%	-0.5%	1.1%	1.7%	1.9%	-9.3%	8.4%	5.6%	2.0%
Israel	3.9%	2.5%	4.5%	4.3%	4.1%	4.2%	-1.9%	8.6%	6.8%	2.0%
Denmark	1.6%	2.3%	3.2%	2.8%	2.0%	1.5%	-2.4%	6.8%	2.7%	1.9%
Bulgaria	0.9%	3.4%	3.0%	2.7%	2.7%	4.0%	-4.0%	7.7%	3.9%	1.8%
Slovenia	2.8%	2.2%	3.2%	4.8%	4.5%	3.5%	-4.2%	8.2%	2.5%	1.6%
Andorra	2.5%	1.4%	3.7%	0.3%	1.6%	2.0%	-11.2%	8.3%	9.6%	1.4%
Belgium	1.6%	2.0%	1.3%	1.6%	1.8%	2.2%	-5.3%	6.9%	3.0%	1.4%
South Korea (Republic of Korea)	3.2%	2.8%	2.9%	3.2%	2.9%	2.2%	-0.7%	4.3%	2.6%	1.4%
Singapore	3.9%	3.0%	3.6%	4.5%	3.5%	1.3%	-3.9%	9.7%	3.8%	1.1%
Canada	2.9%	0.6%	1.0%	3.0%	2.7%	1.9%	-5.0%	5.3%	3.8%	1.1%
Italy	0.0%	0.8%	1.3%	1.7%	0.9%	0.5%	-9.0%	8.3%	4.0%	0.9%
Switzerland	2.3%	1.6%	2.1%	1.4%	2.9%	1.1%	-2.1%	5.4%	2.6%	0.7%
France	1.0%	1.1%	1.1%	2.3%	1.9%	1.8%	-7.5%	6.4%	2.5%	0.7%
New Zealand	3.8%	3.7%	3.7%	3.4%	3.5%	2.4%	-0.4%	4.5%	2.8%	0.6%
South Africa	1.4%	1.3%	0.7%	1.2%	1.6%	0.3%	-6.0%	4.7%	1.9%	0.6%
Norway	2.0%	1.9%	1.2%	2.5%	0.8%	1.1%	-1.3%	3.9%	3.0%	0.5%
European Union	1.6%	2.3%	2.0%	2.8%	2.1%	1.8%	-5.7%	6.0%	3.5%	0.5%
Eurozone	1.4%	2.1%	1.9%	2.6%	1.8%	1.6%	-6.1%	6.0%	3.4%	0.4%
Tunisia	3.1%	1.0%	1.1%	2.2%	2.6%	1.6%	-8.6%	4.6%	2.6%	0.4%
Poland	3.8%	4.4%	3.0%	5.1%	5.9%	4.4%	-2.0%	6.9%	5.6%	0.2%
Netherlands	1.4%	2.0%	2.2%	2.9%	2.4%	2.0%	-3.9%	6.2%	4.3%	0.1%
United Kingdom	3.2%	2.2%	1.9%	2.7%	1.4%	1.6%	-10.4%	8.7%	4.3%	0.1%
Qatar	5.3%	4.8%	3.1%	-1.5%	1.2%	0.7%	-3.6%	1.6%	4.2%	0.0%
Lebanon	2.5%	0.5%	1.6%	0.9%	-1.9%	-6.9%	-21.4%	-7.0%	-0.6%	0.0%
Sweden	2.7%	4.5%	2.1%	2.6%	2.0%	2.0%	-2.2%	6.1%	2.7%	-0.2%
Latvia	1.9%	3.9%	2.4%	3.3%	4.0%	0.6%	-3.5%	6.7%	3.0%	-0.3%
Germany	2.2%	1.5%	2.2%	2.7%	1.0%	1.1%	-3.8%	3.2%	1.8%	-0.3%
Czech Republic	2.3%	5.4%	2.5%	5.2%	3.2%	3.0%	-5.5%	3.6%	2.4%	-0.3%
Lithuania	3.5%	2.0%	2.5%	4.3%	4.0%	4.7%	0.0%	6.3%	2.4%	-0.3%
Saudi Arabia	3.8%	4.5%	1.9%	0.9%	3.2%	1.1%	-3.6%	5.1%	7.5%	-0.8%
Austria	0.7%	1.0%	2.0%	2.3%	2.4%	1.5%	-6.6%	4.2%	4.8%	-0.8%
Hungary	4.2%	3.7%	2.2%	4.3%	5.4%	4.9%	-4.5%	7.1%	4.6%	-0.9%
Finland	-0.4%	0.5%	2.8%	3.2%	1.1%	1.2%	-2.4%	2.8%	1.3%	-1.0%
Luxembourg	2.6%	2.3%	5.0%	1.3%	1.2%	2.9%	-0.9%	7.2%	1.4%	-1.1%
Argentina	-2.5%	2.7%	-2.1%	2.8%	-2.6%	-2.0%	-9.9%	10.7%	5.0%	-1.6%
Iraq	0.2%	4.7%	13.8%	-1.8%	2.6%	5.5%	-12.0%	1.5%	7.6%	-2.9%
Estonia	3.0%	1.9%	3.2%	5.8%	3.8%	4.0%	-1.0%	7.2%	-0.5%	-3.0%
Ireland	8.8%	24.5%	1.8%	9.3%	8.5%	5.3%	6.6%	15.1%	9.4%	-3.2%

Sources: World Bank (extracted on 23/10/2023), Monaco Statistics

Figure 8: Ten-year change in GDP growth rate by geographical area



Sources: World Bank (extracted on 22/10/2024), Monaco Statistics

Gross Domestic Product 2023

November 2024

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