

GROSS DOMESTIC PRODUCT

2021

November 2022

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Introduction

This document presents the results of the calculation of the Gross Domestic Product (GDP) for the year 2021 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 makes it possible to monitor and assess the effectiveness of economic policies and to make comparisons 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 also presented in constant euros, allowing the effects of inflation to be corrected.

Moreover, GDP N-1 data 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.

1. The Gross Domestic Product

1.1. Economic situation

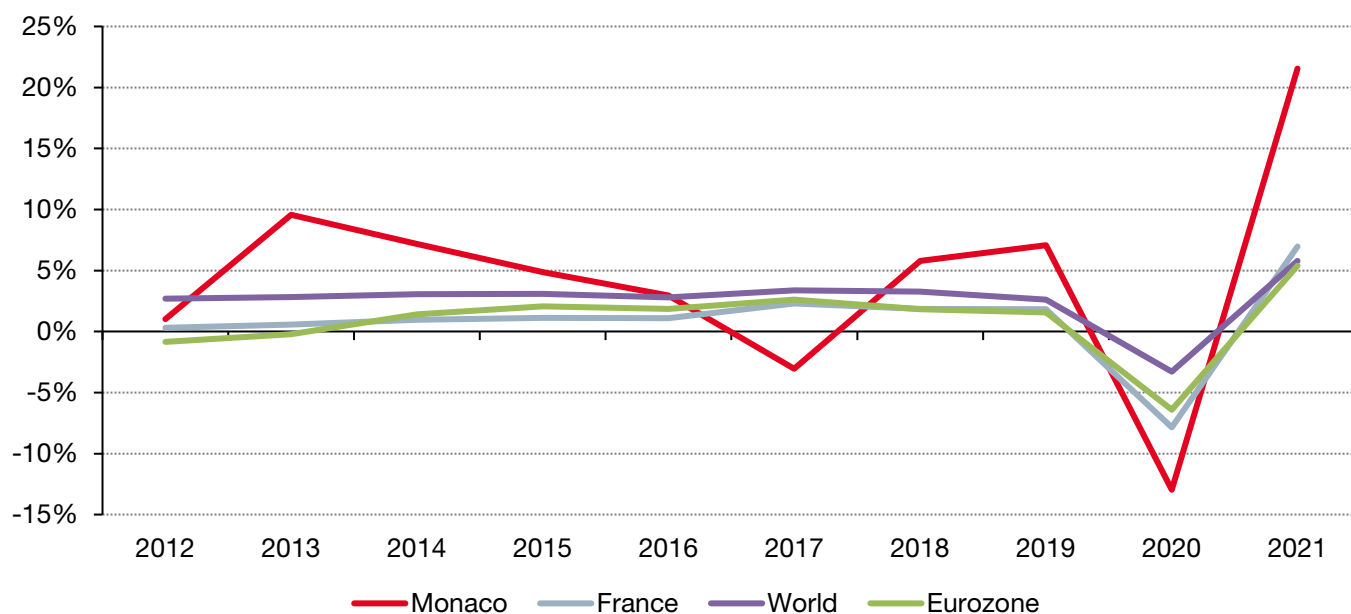
The year 2020 was largely marked by the health crisis that paralysed all international economies. Several restrictive measures were put in place around the world in an effort to stem the spread of the Covid-19 pandemic. In 2021, the lifting of these restrictions and the resumption of global trade in goods has had a spring effect on economies. Thus, world GDP in 2021 increased by 5.8% and that of the Eurozone by 5.4%. In varying dimensions, there has been a rebound in the amount of wealth created in almost all countries of the world, more or less sufficient to compensate for the loss of GDP directly linked to the health crisis (in 2021: India +8.9%, France +7.0%, Italy +6.6%, USA +5.7%, Germany +2.9%, etc.)¹. The generally greater volatility in small states generates more significant impacts, as shown in this case by Malta (+9.4% in 2021 compared to -8.3% in 2020) or Andorra (+8.9% in 2021 after a drop of 11.2%).

In this context, the Principality of Monaco is no exception, quite the contrary. In 2020, the Government put in place various measures and subsidies aimed at supporting the economy, in particular by protecting employment. The gradual reduction over the year 2021 of travel restrictions and gauges, the recovery of businesses and major events such as the Formula 1 Grand Prix or the Monaco Yacht Show as well as the significant volatility of the Principality's GDP have led to a particularly remarkable rebound in the level of wealth creation in Monaco. Indeed, the very sharp fall in 2020 (-13.0%) mechanically generates a high growth rate in the event of an economic recovery.

In this particular context, comparisons with the year 2019 have been added in order to put the economic recovery into perspective and to measure the growth of the Monegasque economy as well as possible.

Monaco's GDP for the year 2021 amounts to 7.27 billion euros, compared with 5.90 billion in 2020 and 6.60 billion in 2019. It is up by 21.6% in volume² compared to 2020, and by 5.8% compared to 2019.

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



Sources: World Bank, Monaco Statistics

¹ See Appendix: Real GDP growth rates

² Adjusted for inflation

1.2. National GDP results

1.2.1. Summary of results

The Principality's GDP reaches 7.27 billion euros in 2021, compared with 5.90 billion in 2020 and 6.60 billion in 2019 (cf. Table 1). After a 13.0% drop in 2020, it grows by 21.6% in real terms, adjusted for inflation, and by 5.8% in real terms compared to 2019 (cf. Table 2). It thus erases the decline in 2020, to resume its growth trend of recent years. Over the decade, GDP recorded a compound annual growth rate (CAGR) of 4.4%.

Given the approach adopted in Monaco of GDP as an indicator of income (see 2.1.4. Determining the GDP), it is divided into four components (cf. Table 3):

- Notably affected by the health crisis in 2020, Earnings Before Interest, Taxes, Depreciation and Amortisation (EBITDA), which corresponds to the "remuneration" (productive income) of companies, rebounds considerably (+23.4%) and becomes the leading contributor to Monaco's GDP (44.1% of GDP excluding subsidies). It thus just overtakes the wage bill for the first time since 2007.
- The employee remuneration corresponds to the redistribution in the form of salaries and social security contributions of the annually created wealth. It increases by 10.1% compared to 2020 and by 4.0% compared to 2019, i.e. in greater proportions than the number of active employees (employees having worked at least one hour during the month of December of the year concerned). In 2021, the wage bill represents 42.1% of GDP excluding subsidies.
- The amount of taxes paid on products increases in 2021 by 13.8%, due in particular to the growth of VAT, and contributes to 13.8% of the wealth created excluding subsidies.
- After subsidies doubled in 2020 as a result of the Prince's Government's voluntary policy of supporting the economy, the latter halved in 2021 (-44.6%) but nevertheless increased compared to 2019, at a rate equal to that of previous years.

As in previous years, the economic performance of the business sectors shows strong disparities depending on the area of activity. While the majority of the Major Activity Sectors (MESs) have seen their GDP increase, two of the twelve business sectors of the Monegasque economy have a level below 2020, and four remain below their pre-crisis result (cf. Table 4).

Thus, the three main economic sectors in the Principality are Scientific and technical activities, administrative and support service activities, Financial and insurance activities and Wholesale trade. Between them, they account for almost half (47.3%) of the wealth produced (cf. Figure 5).

GDP per capita is at a record level of 81,710 euros. This is 17.5% higher in real terms than in 2020, and 3.9% higher than in 2019 (cf. Table 6).

GDP per employee, an indicator of economic productivity, is also at an all-time high of 125,121 euros, up 17.0% in real terms compared to 2020, and up 5.4% compared to 2019 (cf. Table 7).

1.2.2. General presentation of the GDP aggregate

GDP 2005 is the base year for this aggregate. It is evaluated in "nominal terms", i.e. in current euros. The growth is calculated on 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 National Institute for Statistics and Economic Studies (cf. 2.2.4. GDP in current euros and in constant euros). The reference year (base 100) is updated every 5 years. In 2018, the year 2014 replaced the year 2010 as the reference year. This change has marginally modified the amount of GDP in volume and its evolution.

Table 1: Change in nominal GDP³

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP	4,469.8	4,936.0	5,321.3	5,643.6	5,841.2	5,693.0	6,081.9	6,595.9	5,900.6	7,268.0

Unit: million euros

Source: Monaco Statistics

Table 2: Change in real GDP⁴

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Nominal GDP	4,469.8	4,936.0	5,321.3	5,643.6	5,841.2	5,693.0	6,081.9	6,595.9	5,900.6	7,268.0
Price index	98.7	99.4	100.0	101.1	101.7	102.2	103.2	104.5	107.4	108.9
Real GDP	4,530.6	4,964.4	5,321.3	5,580.1	5,745.5	5,570.6	5,892.6	6,310.0	5,491.9	6,675.6
Real GDP growth	NA	9.6%	7.2%	4.9%	3.0%	-3.0%	5.8%	7.1%	-13.0%	21.6%

Unit: million euros

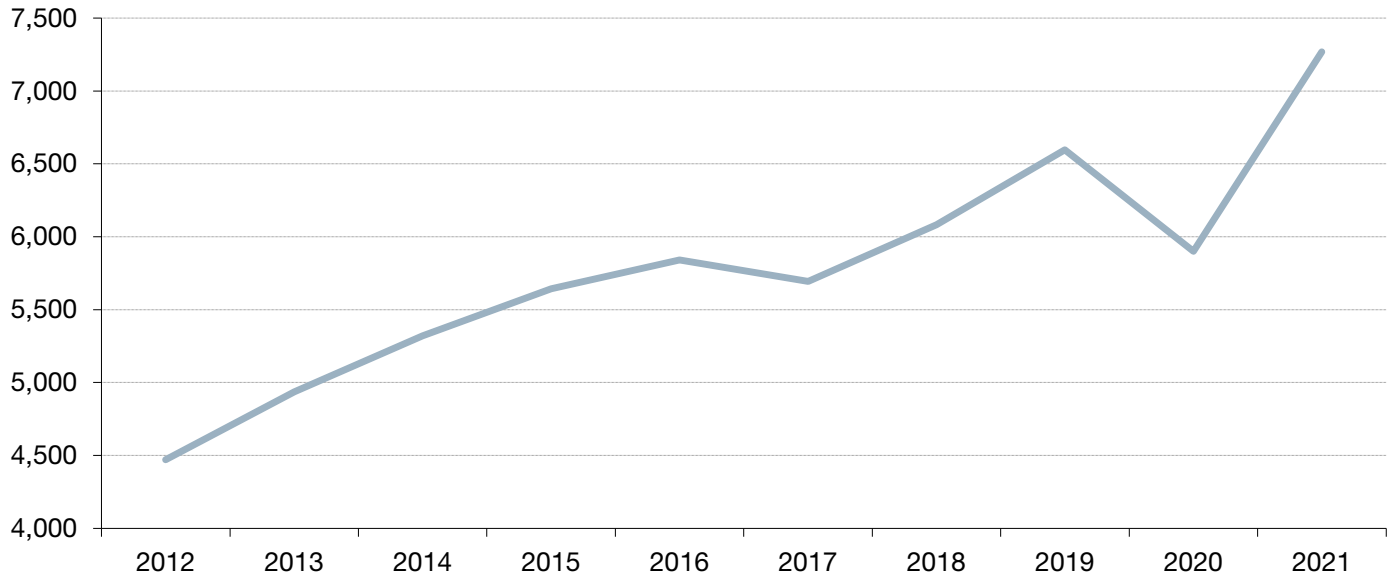
Sources: INSEE, Monaco Statistics

The Principality's GDP amounts to 7.27 billion euros in 2021. After the exceptional decline of 13.0% observed in 2020, GDP quickly returned to its pre-pandemic level and thus shows a significant rebound in growth of 21.6% in real terms compared to the previous year.

Compared to 2019, it grows by 5.8% in real terms, a pace roughly equivalent to that of recent years.

Between 2012 and 2021, GDP increases on average each year by 4.4%.

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



Unit: million euros

Source: Monaco Statistics

³ Nominal GDP is expressed in "current euros".

⁴ Real GDP is expressed in "constant euros" with a base 100 in 2014. It is adjusted for inflation by the Gross domestic product and its components price indexes published by INSEE.

1.2.3. GDP structure

In 2021, all components of GDP have a positive impact on it.

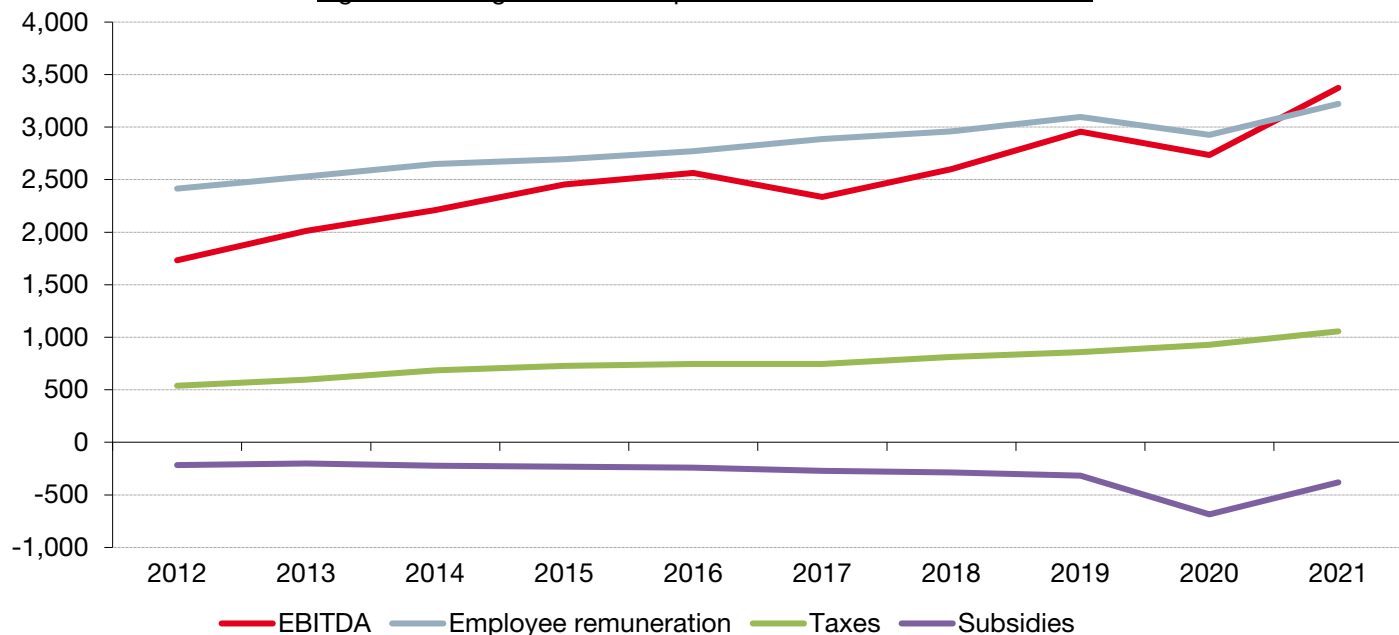
Table 3: GDP structure in millions of current euros

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Var 20/21	Share 2021	Var 19/21
EBITDA	1,732.8	2,013.0	2,210.4	2,453.7	2,564.8	2,334.5	2,598.6	2,957.9	2,733.7	3,372.1	23.4%	46.4%	↗
Employee remuneration	2,415.3	2,528.7	2,649.6	2,694.7	2,772.0	2,884.9	2,959.6	3,096.8	2,925.3	3,220.1	10.1%	44.3%	↗
Taxes	537.4	596.8	685.4	726.2	746.0	746.5	811.4	858.8	927.5	1,055.9	13.8%	14.5%	↗
Subsidies	-215.6	-202.4	-224.1	-231.0	-241.6	-272.9	-287.7	-317.5	-685.9	-380.0	-44.6%	-5.2%	↗
Nominal GDP	4,469.8	4,936.0	5,321.3	5,643.6	5,841.2	5,693.0	6,081.9	6,595.9	5,900.6	7,268.0	23.2%	100%	↗

Unit: million euros

Source: Monaco Statistics

Figure 3: Change in GDP components in millions of current euros



Unit: million euros

Source: Monaco Statistics

EBITDA was the component most affected by the health crisis in 2020 (-7.6%). In 2021, it increases by 23.4% and even exceeds its 2019 level by 14%. With a share equal to almost half of nominal GDP excluding subsidies (44.1%), it becomes its main contributor and slightly exceeds the level of the wage bill for the first time since 2007.

In 2021, employee remuneration increases in greater proportions than the employed population (public and private). While the latter is on the rise again (+3.9%) and returns to its pre-crisis level (+0.4% compared to 2019), the wage bill increases by 10.1% compared to 2020 and by 4.0% compared to 2019. Preserved by the various government measures, employee remuneration had only slightly decreased in 2020 and its growth rate in 2021 is consequently more limited than that of EBITDA. It still represents 42.1% of GDP excluding subsidies.

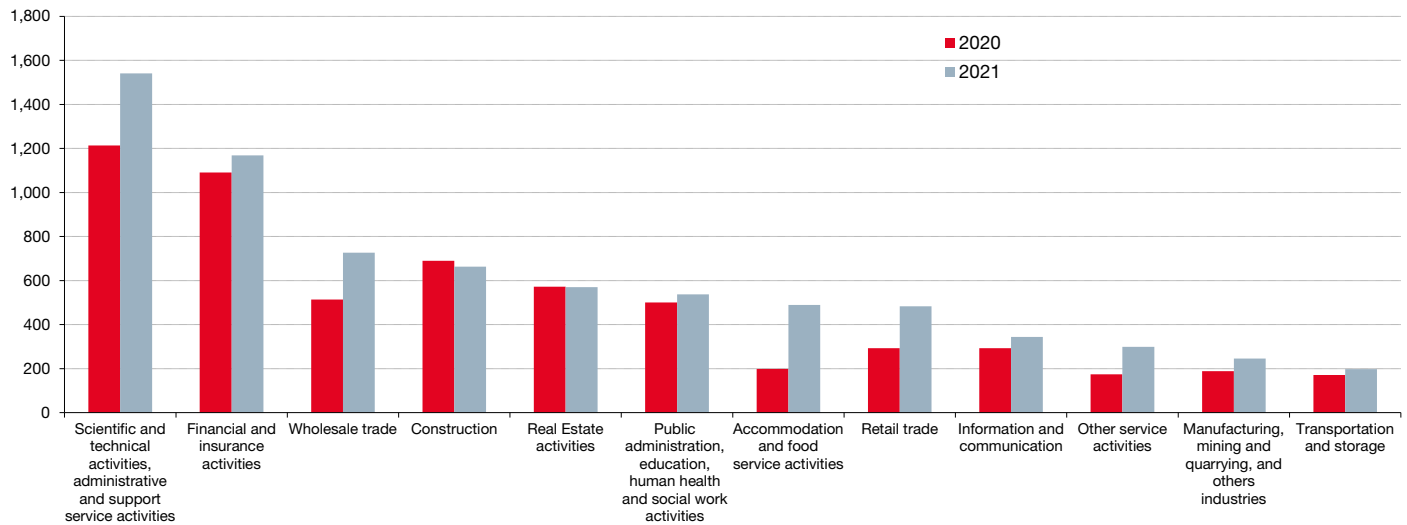
Taxes, the only component that had a positive impact on GDP in the previous year, increase again in 2021 by 13.8% mainly due to the growth of VAT. They contribute by 13.8% to the wealth created (excluding subsidies).

In 2020, the total amount of subsidies had doubled due to the Government's support policy in the context of the health crisis. Subsidies return to a normal growth rate by being reduced by almost half in 2021 (-44.6%) while recording an increase of 19.7% compared to 2019.

1.2.4. GDP by major economic sector

Only two out of twelve MESs see their GDP decrease compared to 2020, and four remain below 2019.

Figure 4: GDP by major economic sector in 2020 and 2021 in millions of current euros



Unit: million euros

Source: Monaco Statistics

Table 4: GDP by major economic sector in millions of current euros

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Var 20/21	Share 2021	Var 19/21
Scientific and technical activities, administrative and support service activities	771.3	826.3	835.5	837.5	866.7	967.0	1,090.5	1,181.7	1,213.4	1,541.0	27.0%	21.2%	↗
Financial and insurance activities	750.5	822.0	897.4	947.7	939.1	1,011.1	968.5	1,105.9	1,091.3	1,168.3	7.1%	16.1%	↗
Wholesale trade	368.8	413.4	483.9	541.9	510.3	479.6	565.8	551.4	514.1	727.1	41.4%	10.0%	↗
Construction	325.3	381.6	415.5	718.8	837.9	494.3	576.8	656.8	689.4	663.6	-3.7%	9.1%	↗
Real Estate activities	339.3	415.5	540.5	494.2	520.2	567.0	614.7	610.0	572.2	570.1	-0.4%	7.8%	↘
Public administration, education, human health and social work activities	349.6	392.4	409.6	404.3	399.6	411.2	416.8	562.1	500.9	537.6	7.3%	7.4%	↘
Accommodation and food service activities	321.1	360.0	347.0	374.2	360.3	466.5	511.7	605.9	198.8	489.1	146.0%	6.7%	↘
Retail trade	307.5	345.4	355.8	334.3	343.4	346.0	336.1	357.7	293.3	483.1	64.7%	6.6%	↗
Information and communication	255.3	242.5	244.2	250.2	271.8	302.4	314.7	337.3	293.5	344.0	17.2%	4.7%	↗
Other service activities	256.5	232.2	343.3	266.8	370.6	194.6	257.2	198.8	174.5	299.6	71.7%	4.1%	↗
Manufacturing, mining and quarrying, and others industries	256.5	309.3	256.6	274.5	229.4	234.4	223.0	203.0	188.4	246.2	30.7%	3.4%	↗
Transportation and storage	168.2	195.2	192.1	199.1	192.0	218.6	206.0	225.2	170.8	198.3	16.1%	2.7%	↘
GDP	4,469.8	4,936.0	5,321.3	5,643.6	5,841.2	5,693.0	6,081.9	6,595.9	5,900.6	7,268.0	23.2%	100%	↗

Unit: million euros

Source: Monaco Statistics

Scientific and technical activities, administrative and support service activities have consolidated their position as the leading contributor to the Principality's GDP, with a share of more than one fifth of total GDP. The strong growth of their GDP (+27.0%) is notably due to the Activities of quantity surveyors.

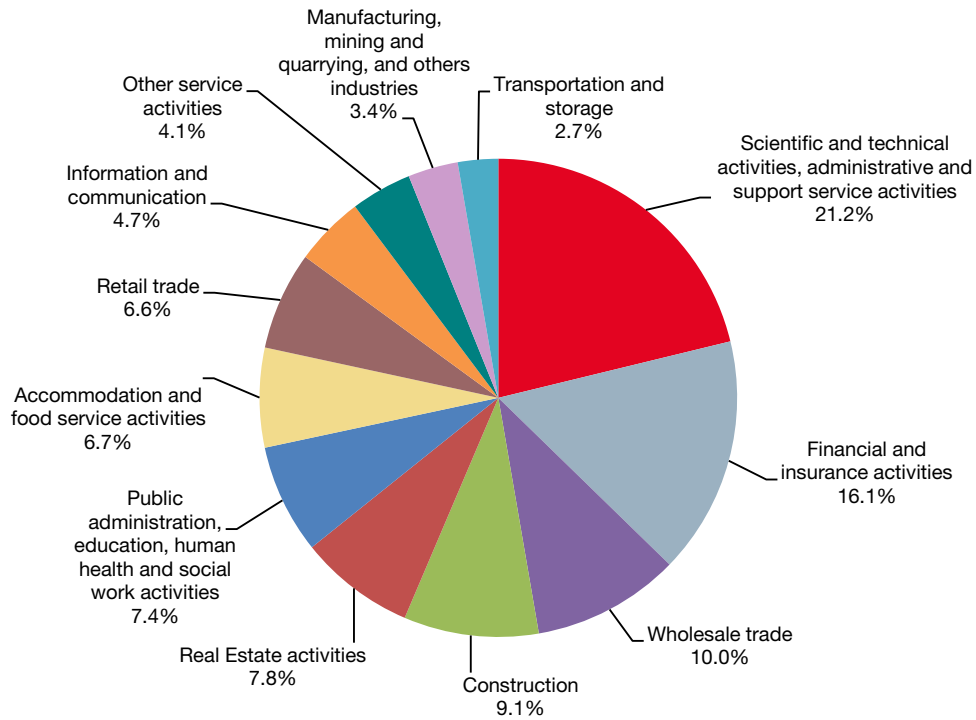
Financial and insurance activities remain in second place and are on the rise again, posting a GDP 7.1% higher than last year.

With an increase of 41.4% in its sectoral GDP compared with 2020, and 31.9% compared with 2019, Wholesale trade takes third place among the largest contributors to Monegasque GDP, ahead of Construction and Real Estate activities.

Only the GDPs of two MESs show a lower result than in 2020. That of Construction decreases by 3.7% while that of Real estate activities remains relatively stable (-0.4%).

Also, four business sectors have not recovered their pre-pandemic level: Public administration, education, human health and social work activities (-4.4% compared to 2019), Real estate activities (-6.5%), Transportation and storage (-11.9%) and Accommodation and food service activities (-19.3%). Although the latter business sector was the most affected by the health crisis, it has the highest relative growth compared to 2020 (+146.0%).

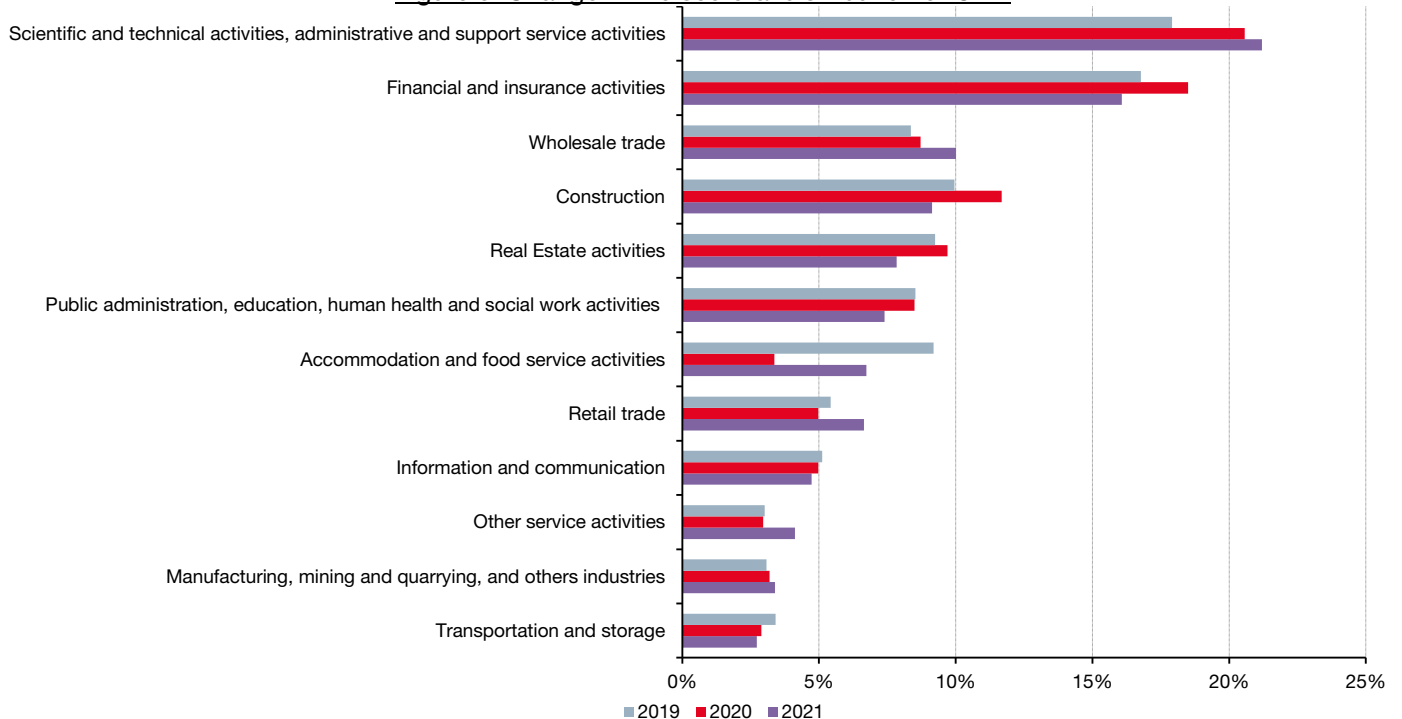
Figure 5: Sectoral distribution of GDP 2021



Source: Monaco Statistics

Together, Scientific and technical activities, administrative and support service activities and Financial and insurance activities create more than a third of the wealth produced in the Principality (37.3%), and this share rises to 47.3% if Wholesale trade is added, i.e. almost half of the overall GDP.

Figure 6: Change in the sectoral distribution of GDP



Source: Monaco Statistics

The share of Scientific and technical activities, administrative and support service activities has continued to grow over the last three years. The same applies to Wholesale trade which, after having gained two places in 2020, reiterates this in 2021 and overtakes Construction and Real estate activities (respectively fourth and fifth contributors to GDP in the Principality). It thus regains the third place it occupied at the beginning of the decade.

Accommodation and food service activities, ninth MES out of twelve in 2020 due to the health crisis, climbs back up to seventh place in 2021, but does not regain its fifth place as in 2019.

1.3. GDP per capita⁵

The situation of the Principality of Monaco is atypical in many respects, particularly regarding its resident population on the one hand and its employed population on the other.

Indeed, in 2021, for 39,150 residents, there are 58,087 active employees, 86% of whom live outside Monaco. This highly unusual situation, even unique in the world, makes international comparisons difficult and the use of certain traditional international indicators inappropriate. This is particularly true for the traditional indicator of GDP per capita.

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

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

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, the employed population is notably made up of "commuters" who do not reside on Monegasque territory. Given their economic significance and their daily participation in the creation of wealth, it appeared relevant for the calculation of the GDP per capita that a reference population be determined.

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

Table 5: Reference population for the calculation of GDP per capita

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Var 20/21	Var 19/21
Residents (all nationalities)	36,750	37,350	37,900	37,500	38,300	38,300	38,150	38,350	39,150	2.1%	↗
Non-resident employees	41,884	43,218	42,931	43,559	45,497	47,576	49,224	47,663	49,798	4.5%	↗
of which private employees outside MC	39,829	41,094	40,726	41,306	43,155	45,153	46,722	45,051	47,087	4.5%	↗
of which public employees outside MC	2,055	2,124	2,205	2,253	2,342	2,423	2,502	2,612	2,711	3.8%	↗
Total reference population	78,634	80,568	80,831	81,059	83,797	85,876	87,374	86,013	88,948	3.4%	↗

Source: Monaco Statistics

The population census in 2016 updated the population estimates previously made. The overall reference population in 2021 is 88,948 (+2,935).

Table 6: Change in GDP per capita

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Nominal GDP in million euros	4,936.0	5,321.3	5,643.6	5,841.2	5,693.0	6,081.9	6,595.9	5,900.6	7,268.0
Total population selected	78,634	80,568	80,831	81,059	83,797	85,876	87,374	86,013	88,948
Nominal GDP per capita	62,772	66,047	69,820	72,061	67,938	70,821	75,491	68,601	81,710
Price index	99.4	100.0	101.1	101.7	102.2	103.2	104.5	107.4	108.9
Real GDP per capita	63,134	66,047	69,034	70,880	66,477	68,618	72,219	63,849	75,050
Real GDP per capita growth		4.6%	4.5%	2.7%	-6.2%	3.2%	5.2%	-11.6%	17.5%

Sources: INSEE, Monaco Statistics

GDP per capita in 2021 stands at 81,710 euros, an increase of 17.5% in real terms. This is an amount never before achieved in the Principality. As the reference population has increased (+3.4%), the variation in GDP per capita is lower than that of GDP. The latter is also up by 3.9% compared to 2019 and is returning to its previous growth trend.

⁵ Due to a change in the way non-resident employees are counted in 2013, data from previous years are not considered in the tables and graphs in this sub-section.

1.3.2. GDP per employee⁶

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

Table 7: Change in GDP per employee

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Nominal GDP in million euros	4,936.0	5,321.3	5,643.6	5,841.2	5,693.0	6,081.9	6,595.9	5,900.6	7,268.0
Total population selected	50,835	52,239	51,956	52,447	54,303	56,303	57,867	55,919	58,087
Nominal GDP per employee	97,098	101,864	108,623	111,374	104,838	108,020	113,984	105,520	125,121
Price index	99.4	100.0	101.1	101.7	102.2	103.2	104.5	107.4	108.9
Real GDP per employee	97,658	101,864	107,400	109,548	102,584	104,660	109,044	98,212	114,923
Real GDP per employee growth		4.3%	5.4%	2.0%	-6.4%	2.0%	4.2%	-9.9%	17.0%

Sources: INSEE, Monaco Statistics

In 2021, GDP per employee amounts to 125,121 euros, its highest level ever. After falling by 9.9% in 2020, it increases by 17.0% in real terms and is up by 5.4% compared to 2019.

1.3.3. GDP per employee in Monaco and France

French data for 2020 and 2021 are provisional.

Table 8: Change in French real GDP per employee

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Var 20/21	Var 19/21
Real GDP in billion euros (base 2014)	2,129.4	2,149.8	2,173.7	2,197.5	2,247.9	2,289.8	2,332.0	2,150.4	2,297.0	6.8%	↘
Employed population in thousands (France)	24,655	24,666	24,770	24,959	25,284	25,429	25,811	25,595	26,456	3.4%	↗
Real GDP per employee	86,368	87,155	87,756	88,044	88,905	90,046	90,348	84,018	86,824	3.3%	↘

Sources: INSEE, Monaco Statistics

Table 9: Change in real GDP per employee in Monaco and France

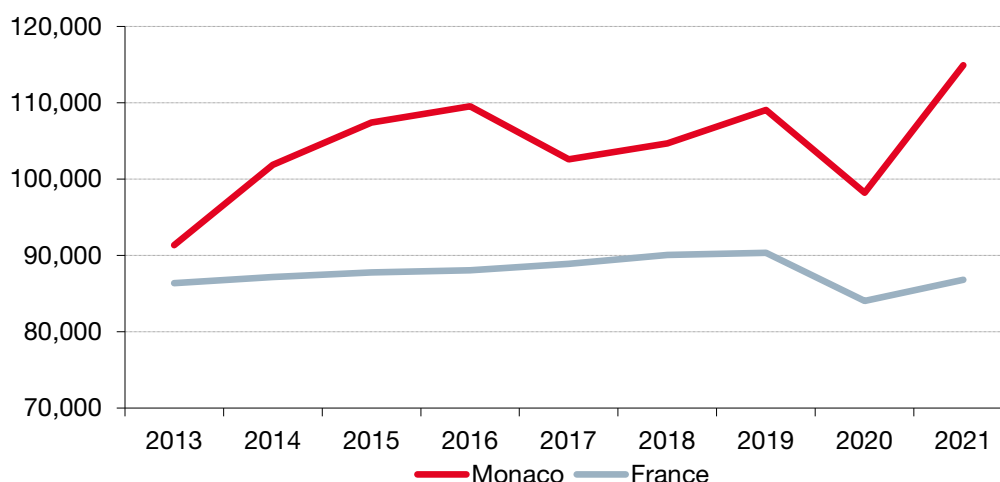
	2013	2014	2015	2016	2017	2018	2019	2020	2021	Var 20/21	Var 19/21
Monaco	91,326	101,864	107,400	109,548	102,584	104,660	109,044	98,212	114,923	17.0%	↗
France	86,368	87,155	87,756	88,044	88,905	90,046	90,348	84,018	86,824	3.3%	↘
Difference Monaco / France	5.7%	16.9%	22.4%	24.4%	15.4%	16.2%	20.7%	16.9%	32.4%		

Unit: euros, base 100 in 2014

Sources: INSEE, Monaco Statistics

Historically, GDP per employee in Monaco has always been higher than in France. In 2021, the gap widens and doubles compared to 2020 (+28,099 euros in favour of the Principality, i.e. +32.4%). This makes it the largest gap observed, ahead of the previous maximum reached in 2016 with 21,504 euros.

Figure 7: Change in real GDP per employee in Monaco and France



Unit: euros, base 100 in 2014

Sources: INSEE, Monaco Statistics

While France's GDP per employee has not returned to its pre-pandemic level (-3.9% compared to 2019), Monaco's GDP per employee grew by 5.4% between 2019 and 2021, and the gap between the two countries is 11.7 percentage points higher than in 2019 in favour of the Principality.

⁶ Active employees who worked at least one hour during December 2021

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)⁷.

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

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

The main changes made are 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 are 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.

⁷ Gross national income is the sum of all primary (gross) income received by resident economic units (EBITDA, gross mixed income, employee remuneration, 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 = Employee remuneration
+ 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 2014 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 10,696 economic agents concerned in 2021, the rate of files processed was 76.9% (76.3% in 2020 but 72.4% in 2019). 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 on the basis of 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 2014 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 2014 are presented "at the prices of the previous year, chained, base 2014" (1.103 Gross domestic product and its components price indexes⁸).

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 2014 and multiplied by the current price value of the aggregate in 2014, 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

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

2.3.2. Remuneration and social charges (D1)

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

⁸ <https://www.insee.fr/en/statistiques/5355105?sommaire=5355165>

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 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)⁹

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

⁹ D3 = (D393 + D399)

Appendix: Real GDP growth rates in the world

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Monaco	1.0%	9.6%	7.2%	4.9%	3.0%	-3.0%	5.8%	7.1%	-13.0%	21.6%
Ireland	-0.1%	1.3%	8.7%	25.2%	2.0%	8.9%	9.0%	4.9%	5.9%	13.5%
Turkey	4.8%	8.5%	4.9%	6.1%	3.3%	7.5%	3.0%	0.9%	1.8%	11.0%
Croatia	-2.3%	-0.4%	-0.3%	2.5%	3.5%	3.4%	2.9%	3.5%	-8.1%	10.4%
Argentina	-1.0%	2.4%	-2.5%	2.7%	-2.1%	2.8%	-2.6%	-2.0%	-9.9%	10.3%
Malta	4.1%	5.5%	7.6%	9.6%	3.4%	11.1%	6.0%	5.9%	-8.3%	9.4%
Andorra	-5.0%	-3.5%	2.5%	1.4%	3.7%	0.3%	1.6%	2.0%	-11.2%	8.9%
India	5.5%	6.4%	7.4%	8.0%	8.3%	6.8%	6.5%	3.7%	-6.6%	8.9%
Estonia	3.2%	1.5%	3.0%	1.9%	3.2%	5.8%	4.1%	4.1%	-3.0%	8.3%
Greece	-7.1%	-2.5%	0.5%	-0.2%	-0.5%	1.1%	1.7%	1.8%	-9.0%	8.3%
Israel	2.8%	4.8%	4.1%	2.3%	4.5%	4.4%	4.0%	3.8%	-2.2%	8.2%
Slovenia	-2.6%	-1.0%	2.8%	2.2%	3.2%	4.8%	4.4%	3.3%	-4.2%	8.1%
China	7.9%	7.8%	7.4%	7.0%	6.8%	6.9%	6.7%	6.0%	2.2%	8.1%
Singapore	4.4%	4.8%	3.9%	3.0%	3.6%	4.7%	3.7%	1.1%	-4.1%	7.6%
United Kingdom	1.5%	1.9%	3.0%	2.6%	2.3%	2.1%	1.7%	1.7%	-9.3%	7.4%
Serbia	-0.7%	2.9%	-1.6%	1.8%	3.3%	2.1%	4.5%	4.3%	-0.9%	7.4%
Morocco	3.0%	4.5%	2.7%	4.5%	1.1%	4.3%	3.1%	2.6%	-6.3%	7.4%
Hungary	-1.3%	1.8%	4.2%	3.7%	2.2%	4.3%	5.4%	4.6%	-4.5%	7.1%
France	0.3%	0.6%	1.0%	1.1%	1.1%	2.3%	1.9%	1.8%	-7.9%	7.0%
Luxembourg	1.6%	3.2%	2.6%	2.3%	5.0%	1.3%	2.0%	3.3%	-1.8%	6.9%
Italy	-3.0%	-1.8%	0.0%	0.8%	1.3%	1.7%	0.9%	0.5%	-9.0%	6.6%
Belgium	0.7%	0.5%	1.6%	2.0%	1.3%	1.6%	1.8%	2.1%	-5.7%	6.2%
Romania	2.0%	3.8%	3.6%	3.0%	4.7%	7.3%	4.5%	4.2%	-3.7%	5.9%
World	2.7%	2.8%	3.1%	3.1%	2.8%	3.4%	3.3%	2.6%	-3.3%	5.8%
Poland	1.3%	1.1%	3.4%	4.2%	3.1%	4.8%	5.4%	4.7%	-2.5%	5.7%
United States	2.3%	1.8%	2.3%	2.7%	1.7%	2.3%	2.9%	2.3%	-3.4%	5.7%
Cyprus	-3.4%	-6.6%	-1.8%	3.4%	6.5%	5.9%	5.7%	5.3%	-5.0%	5.5%
Eurozone	-0.8%	-0.2%	1.4%	2.1%	1.9%	2.6%	1.8%	1.6%	-6.4%	5.4%
European Union	-0.7%	0.0%	1.6%	2.3%	2.0%	2.8%	2.1%	1.8%	-6.0%	5.4%
Spain	-3.0%	-1.4%	1.4%	3.8%	3.0%	3.0%	2.3%	2.1%	-10.8%	5.1%
Netherlands	-1.0%	-0.1%	1.4%	2.0%	2.2%	2.9%	2.4%	2.0%	-3.8%	5.0%
Lithuania	3.8%	3.6%	3.5%	2.0%	2.5%	4.3%	4.0%	4.6%	-0.1%	5.0%
South Africa	2.4%	2.5%	1.4%	1.3%	0.7%	1.2%	1.5%	0.1%	-6.4%	4.9%
Portugal	-4.1%	-0.9%	0.8%	1.8%	2.0%	3.5%	2.8%	2.7%	-8.4%	4.9%
Russian Federation	4.0%	1.8%	0.7%	-2.0%	0.2%	1.8%	2.8%	2.2%	-2.7%	4.8%
Sweden	-0.6%	1.2%	2.7%	4.5%	2.1%	2.6%	2.0%	2.0%	-2.9%	4.8%
Denmark	0.2%	0.9%	1.6%	2.3%	3.2%	2.8%	2.0%	2.1%	-2.1%	4.7%
New Zealand	2.2%	2.7%	3.8%	3.7%	3.8%	3.6%	3.4%	2.2%	-1.3%	4.6%
Canada	1.8%	2.3%	2.9%	0.7%	1.0%	3.0%	2.8%	1.9%	-5.2%	4.6%
Austria	0.7%	0.0%	0.7%	1.0%	2.0%	2.3%	2.5%	1.5%	-6.7%	4.5%
Latvia	7.0%	2.0%	1.9%	3.9%	2.4%	3.3%	4.0%	2.5%	-3.8%	4.5%
Bulgaria	0.8%	-0.6%	1.0%	3.4%	3.0%	2.8%	2.7%	4.0%	-4.4%	4.2%
South Korea (Republic of Korea)	2.4%	3.2%	3.2%	2.8%	2.9%	3.2%	2.9%	2.2%	-0.9%	4.0%
Norway	2.7%	1.0%	2.0%	2.0%	1.1%	2.3%	1.1%	0.7%	-0.7%	3.9%
Algeria	3.4%	2.8%	3.8%	3.7%	3.2%	1.3%	1.1%	1.0%	-5.1%	3.8%
Iceland	1.1%	4.6%	1.7%	4.4%	6.3%	4.2%	4.9%	2.4%	-6.5%	3.7%
Switzerland	1.2%	1.8%	2.4%	1.7%	2.0%	1.6%	2.9%	1.2%	-2.4%	3.7%
Finland	-1.4%	-0.9%	-0.4%	0.5%	2.8%	3.2%	1.1%	1.2%	-2.3%	3.5%
Ukraine	0.2%	0.0%	-10.1%	-9.8%	2.4%	2.4%	3.5%	3.2%	-3.8%	3.4%
Tunisia	4.2%	2.4%	3.1%	1.0%	1.1%	2.2%	2.6%	1.3%	-8.7%	3.3%
Czech Republic	-0.8%	0.0%	2.3%	5.4%	2.5%	5.2%	3.2%	3.0%	-5.8%	3.3%
Egypt	2.2%	2.2%	2.9%	4.4%	4.3%	4.2%	5.3%	5.6%	3.6%	3.3%
Saudi Arabia	5.4%	2.7%	3.7%	4.1%	1.7%	-0.7%	2.5%	0.3%	-4.1%	3.2%
Germany	0.4%	0.4%	2.2%	1.5%	2.2%	2.7%	1.1%	1.1%	-4.6%	2.9%
Iraq	13.9%	7.6%	0.2%	4.7%	13.8%	-1.8%	2.6%	5.5%	-11.3%	2.8%
Vietnam	5.5%	5.6%	6.4%	7.0%	6.7%	6.9%	7.2%	7.2%	2.9%	2.6%
Bahrain	3.7%	5.4%	4.4%	2.5%	3.6%	4.3%	2.1%	2.2%	-4.9%	2.2%
Qatar	4.7%	5.6%	5.3%	4.8%	3.1%	-1.5%	1.2%	0.8%	-3.6%	1.5%
Australia	3.9%	2.6%	2.6%	2.2%	2.7%	2.3%	2.9%	2.1%	0.0%	1.5%
Lebanon	2.6%	3.8%	2.5%	0.5%	1.6%	0.9%	-1.9%	-6.9%	-25.9%	-10.5%

Source: World Bank (extracted on 18/10/2022)

Gross Domestic Product 2021

November 2022

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