

Gross Domestic
Product

November 2021

2020

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INTRODUCTION

This document presents the results of the calculation of the Gross Domestic Product (GDP) for the year 2020 and restates the methodological principles and choices used for the calculations.

The Gross Domestic Product (GDP) summarises economic activity and constitutes an essential information in the current economic debates. It makes it possible to monitor and assess the effectiveness of economic policies implemented and to make comparisons with other countries, particularly EU countries.

The Principality's GDP, which is calculated since 2005, is published in an annual report. Since 2006, the figures are broken down by sectors and are also presented in constant euros, correcting for inflation. In 2018, "Base 100 in 2014" replaced "Base 100 in 2010". This changed the GDP figures in real terms, thus changing the growth rates.

Moreover, GDP N-1 data are updated with the responses received after the deadline. A new extrapolation is thus calculated and included.

1. Gross Domestic Product

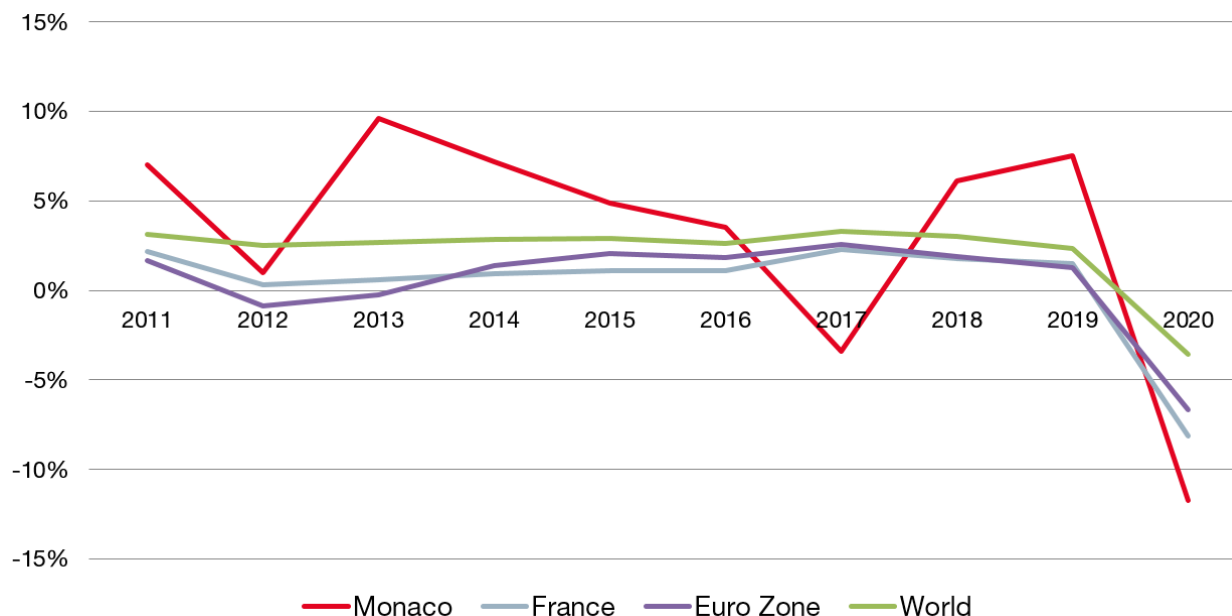
1.1 International economic situation

2020 will remain a sadly exceptional year in light of the COVID-19 pandemic, which paralysed the global economy. In Monaco, as in many countries, the health crisis and the measures put in place to contain it, such as restrictions in shops and restaurants, and above all lockdown, naturally had a negative impact on growth. Economic activity in almost all countries plummeted to unprecedented lows during the first half of the year, before recovering to varying degrees. While the majority of countries experienced a decline in their GDP¹ (Russian Federation: -3.0%; United States: -3.5%; Germany: -4.9%; United Kingdom: -9.8%, etc.), China (+2.3%) and Ireland (+3.4%) were rare exceptions which saw economic growth in 2020. In several countries, including in Europe, governments introduced measures to help limit the negative consequences of the crisis for employment and to support a significant share of household and corporate revenue. However, these policies came with a cost, which has had an impact on growth (euro zone: -6.7%). Small economies have often been the hardest hit, including Malta (-7.0%), San Marino (-9.7%) and Andorra (-12.0%). Assistance measures were also introduced in the Principality to support the economy and facilitate a recovery.

In Monaco, the cancellation of events like the Formula 1 Grand Prix and the Monaco Yacht Show had an effect on the other service activities sector, as well as on numerous additional sectors such as accommodation and food service activities, retail trade and transportation and storage.

Monaco's GDP for 2020 was €5.97 billion, compared with €6.60 billion in 2019, which constitutes a decline of 11.8 % in real terms (adjusted for inflation).

FIGURE 1 : Ten-year change in the GDP growth rate by geographic area



Sources: World Bank, IMSEE

¹ See appendix: table of GDP growth rates

1.2 National GDP figures

1.2.1 Summary of results

Monaco's GDP for 2020 was €5.97 billion, compared with €6.60 billion in 2019 (see Table 1), a decline of 11.8 % in real terms, adjusted for inflation (see Table 2). Following two years of robust growth (+6.0% and +6.9%), GDP fell to a level slightly below that of 2018.

Employee wages declined, although less sharply than gross operating surplus. State intervention to support the economy resulted in a doubling of subsidies. Although revenue declined, the tax take increased (see Table 3).

Despite the introduction of the strengthened provisions for total temporary layoff (CTTR), the number of active employees who worked at least one hour in December 2020 fell by 1,948 (-3.4%). The wage bill declined by -5.5 %, and continued to represent almost half of GDP (44.3 %), excluding subsidies. This corresponds to the share of annually created wealth which is redistributed in the form of salaries and social security contributions.

Taxes paid on products rose relatively sharply (+8.0 %), contributing 14.0 % of wealth produced. This rise can be explained primarily by an increase in VAT, particularly on real estate.

Total subsidies doubled (+100.4%) as a result of the Government's proactive policy on supporting the economy.

Overall gross operating surplus fell sharply (-7.0%), and accounted for 41.7% of GDP, excluding subsidies. As is the case every year, economic performance by sector highlighted significant differences depending on the activity (see Table 4). Only four of the 12 major economic sectors (MES) that make up the Monegasque economy saw an increase in sectoral GDP, and this growth was very subdued.

The three most important economic sectors in the Principality in terms of GDP are scientific and technical activities, administrative and support services; financial and insurance activities; and construction (see Figure 5). They account for more than half (50.1%) of the wealth generated.

GDP per capita was €69,380, a decline of 10.4% in real terms (see Table 6). GDP per employee, an indicator of productivity, also fell by 8.7% to €106,719 (see Table 7).

1.2.2 GDP aggregate

The 2005 GDP is the base year for this aggregate. It is valued in "nominal" terms, i.e. in current euros. Growth is calculated as the change in GDP in nominal terms corrected for inflation (GDP in real terms). The index used for this correction is calculated every year by INSEE. The base year (base 100) is updated every five years. In 2018, the year 2014 replaced the year 2010 as base year. This change marginally impacted the GDP amounts in real terms and their growth.

TABLE 1 : GDP in nominal terms ²

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| GDP | 4,374.2 | 4,469.8 | 4,936.0 | 5,321.3 | 5,643.6 | 5,847.7 | 5,693.0 | 6,091.9 | 6,595.9 | 5,967.6 |

Source: IMSEE
Unit: million of euros

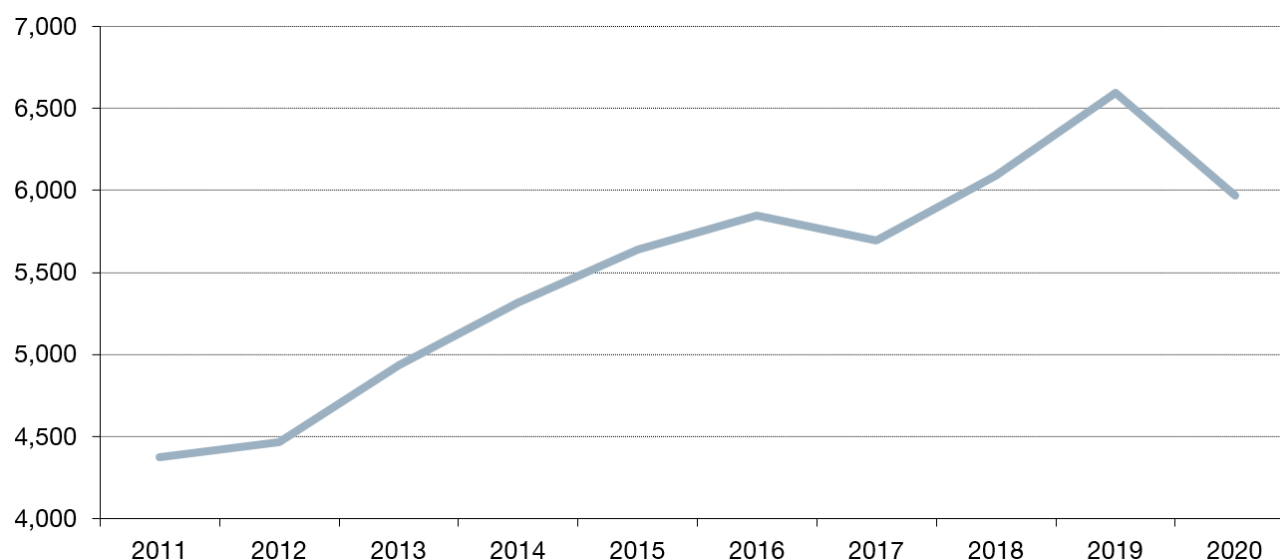
TABLE 2 : GDP in real terms ³

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|-----------------------------|---------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|---------------|
| GDP in nominal terms | 4,374.2 | 4,469.8 | 4,936.0 | 5,321.3 | 5,643.6 | 5,847.7 | 5,693.0 | 6,091.9 | 6,595.9 | 5,967.6 |
| Price index | 97.5 | 98.7 | 99.4 | 100.0 | 101.1 | 101.7 | 102.2 | 103.2 | 104.5 | 107.2 |
| GDP in real terms | 4,485.2 | 4,530.6 | 4,964.4 | 5,321.3 | 5,580.1 | 5,772.7 | 5,570.6 | 5,902.4 | 6,310.0 | 5,568.4 |
| Change in real terms | | 1.0% | 9.6% | 7.2% | 4.9% | 3.5% | -3.5% | 6.0% | 6.9% | -11.8% |

Sources: INSEE, IMSEE
Unit: million of euros

The Principality's GDP was €5.97 billion in 2020. Following two years of growth, Monegasque GDP fell (-11.8%). Over the course of the decade, however, it has increased by an average of 2.4% per year.

FIGURE 2 : Ten-year change in GDP in million of current euros



Source: IMSEE
Unit: million of euros

² GDP in nominal terms is expressed in «current euros».

³ GDP in real terms is expressed in «constant euros», base 100 in 2014. It is corrected for inflation by the price index of gross domestic products and its components published by INSEE.

1.2.3 GDP Structure

Excluding tax revenue, all components had a negative impact on GDP.

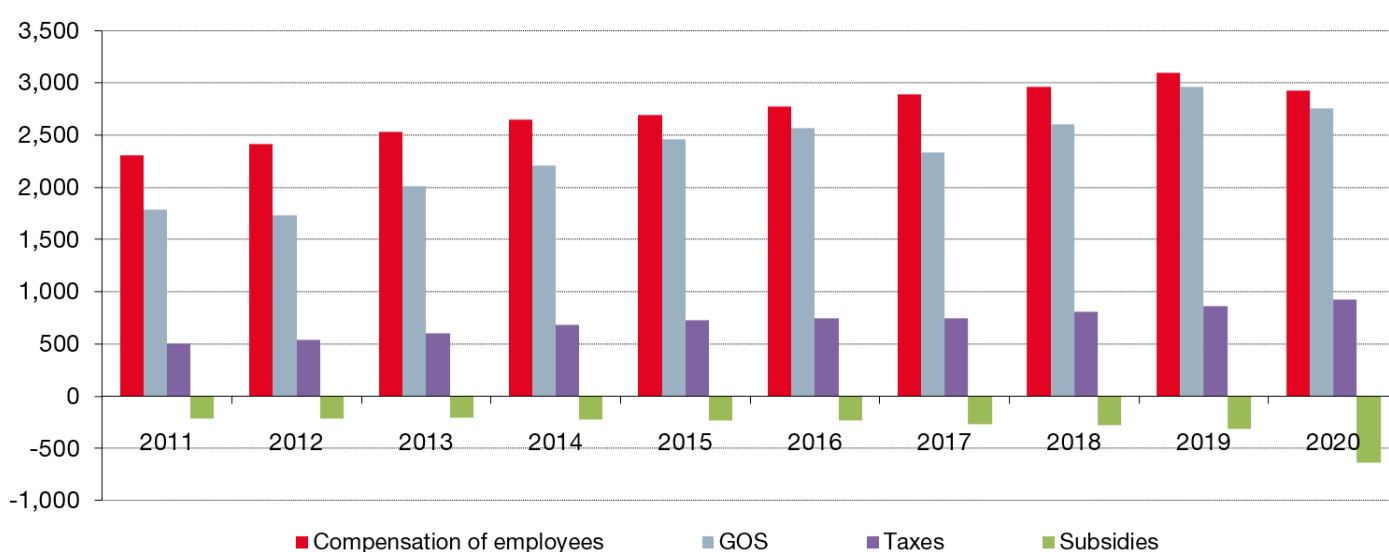
TABLE 3 : Structure of GDP in millions of current euros

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Change 19/20 |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Compensation of employees | 2,301.0 | 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 | -5.5% |
| GOS | 1,784.5 | 1,732.8 | 2,013.0 | 2,210.4 | 2,453.7 | 2,564.8 | 2,334.5 | 2,598.6 | 2,957.9 | 2,751.0 | -7.0% |
| Taxes | 501.4 | 537.4 | 596.8 | 685.4 | 726.2 | 746.0 | 746.5 | 811.4 | 858.8 | 927.5 | 8.0% |
| Subsidies | -212.7 | -215.6 | -202.4 | -224.1 | -231.0 | -235.1 | -272.9 | -277.6 | -317.5 | -636.2 | 100.4% |
| GDP in nominal terms | 4,374.2 | 4,469.8 | 4,936.0 | 5,321.3 | 5,643.6 | 5,847.7 | 5,693.0 | 6,091.9 | 6,595.9 | 5,967.6 | -9.5% |

Source: IMSEE

Unit: million of euros

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



Source: IMSEE

Unit: million of euros

This is only the second time since 2011 that the number of employees (public and private sectors) has fallen. Employee numbers declined by 0.5% in 2015, and by 3.4% in 2020. The amount of wages paid fell by 5.5%, although there has been an average 2.7% annual increase in employee wages across the last decade. These wages account for almost half (44.3 %) of the wealth produced (excluding subsidies).

Gross operating surplus fell sharply (-7.0%), Despite this decline, there has been average annual growth of 4.9% in the gross operating surplus over the course of the decade. Gross operating surplus accounts for 41.7% of GDP excluding subsidies.

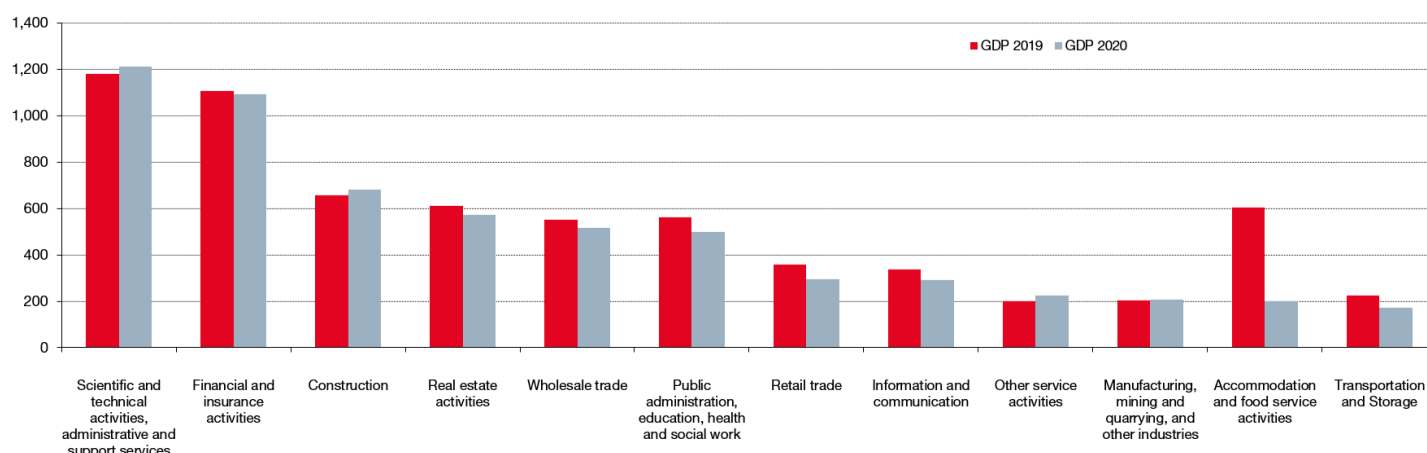
There was a relatively strong increase in tax revenue (+8.0 %), which contributed 14.0% of wealth produced. This rise can be explained primarily by an increase in VAT, particularly on real estate.

Total subsidies doubled (+100.4%) as a result of the Government's proactive policy on supporting the economy.

1.2.4 GDP distribution

Only four out of 12 sectors saw an increase in GDP compared with 2019.

FIGURE 4 : GDP by sector in 2019 and 2020 in millions of current euros



Source: IMSEE
Unit: million of euros

TABLE 4 : GDP in nominal terms by sector expressed in millions of current euros

| | GDP 2011 | GDP 2012 | GDP 2013 | GDP 2014 | GDP 2015 | GDP 2016 | GDP 2017 | GDP 2018 | GDP 2019 | GDP 2020 | Change 19/20 | Share 2020 |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--------------|-------------|
| Scientific and technical activities, administrative and support services | 693.5 | 771.3 | 826.3 | 835.5 | 837.5 | 866.7 | 967.0 | 1,091.3 | 1,181.7 | 1,212.7 | 2.6% | 20.3% |
| Financial and insurance activities | 722.7 | 750.5 | 822.0 | 897.4 | 947.7 | 939.1 | 1,011.1 | 968.5 | 1,105.9 | 1,092.6 | -1.2% | 18.3% |
| Construction | 290.6 | 325.3 | 381.6 | 415.5 | 718.8 | 837.9 | 494.3 | 576.8 | 656.8 | 682.0 | 3.8% | 11.4% |
| Real estate activities | 360.9 | 339.3 | 415.5 | 540.5 | 494.2 | 520.2 | 567.0 | 614.7 | 610.0 | 574.0 | -5.9% | 9.6% |
| Wholesale trade | 455.9 | 372.7 | 414.3 | 483.9 | 541.9 | 510.3 | 479.6 | 565.8 | 551.4 | 515.2 | -6.6% | 8.6% |
| Public administration, education, health and social work | 348.9 | 349.6 | 392.4 | 409.6 | 404.3 | 406.1 | 411.2 | 422.6 | 562.1 | 501.0 | -10.9% | 8.4% |
| Retail trade | 311.9 | 311.3 | 346.3 | 355.8 | 334.3 | 343.4 | 346.0 | 336.1 | 357.7 | 294.9 | -17.6% | 4.9% |
| Information and communication | 272.0 | 255.3 | 242.5 | 244.2 | 250.2 | 271.8 | 302.4 | 314.7 | 337.3 | 293.2 | -13.1% | 4.9% |
| Other service activities | 181.9 | 252.6 | 231.3 | 343.3 | 266.8 | 370.6 | 194.6 | 260.7 | 198.8 | 224.7 | 13.0% | 3.8% |
| Manufacturing, mining and quarrying, and other industries | 270.4 | 252.6 | 308.5 | 256.6 | 274.5 | 229.4 | 234.4 | 223.0 | 203.0 | 206.3 | 1.6% | 3.5% |
| Accommodation and food service activities | 304.6 | 321.1 | 360.0 | 347.0 | 374.2 | 360.3 | 466.5 | 511.7 | 605.9 | 199.9 | -67.0% | 3.3% |
| Transportation and Storage | 160.9 | 168.2 | 195.2 | 192.1 | 199.1 | 192.0 | 218.6 | 206.0 | 225.2 | 171.2 | -24.0% | 2.9% |
| GDP | 4,374.2 | 4,469.8 | 4,936.0 | 5,321.3 | 5,643.6 | 5,847.7 | 5,693.0 | 6,091.9 | 6,595.9 | 5,967.6 | -9.5% | 100% |

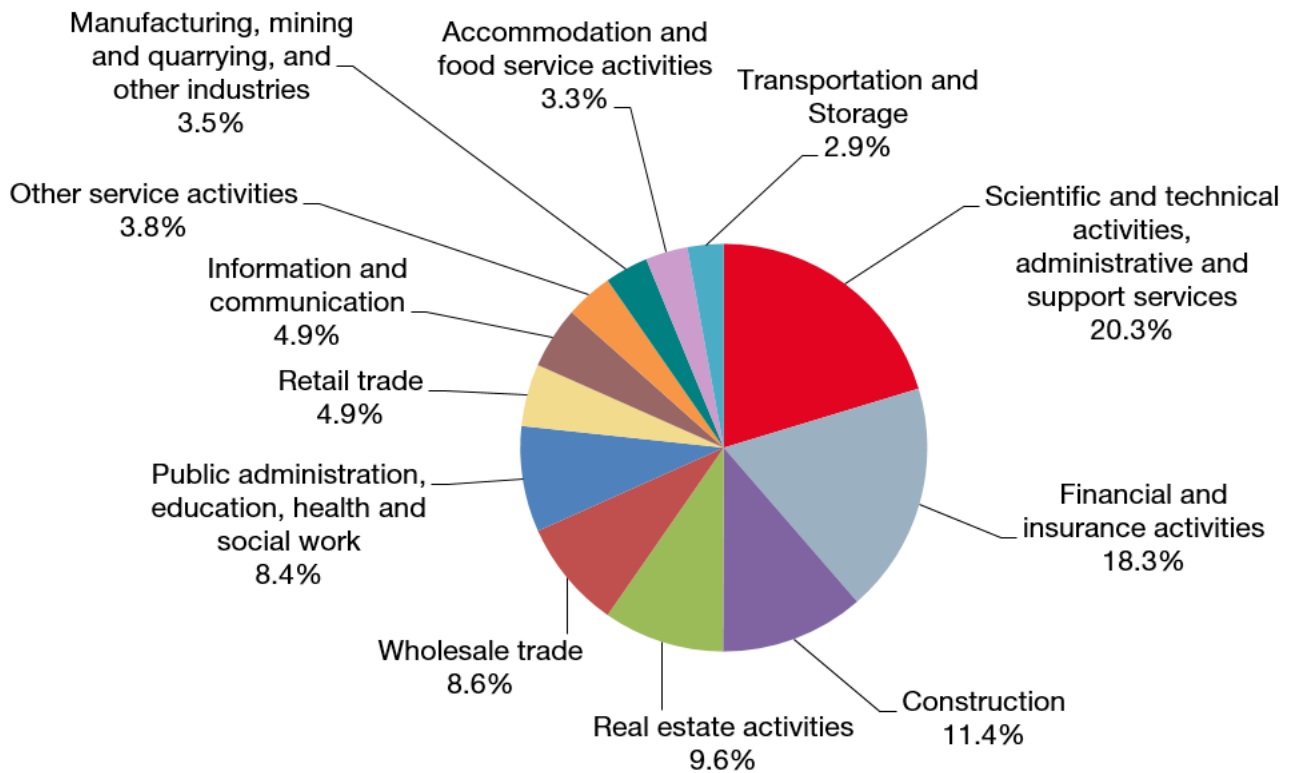
Source: IMSEE
Unit: million of euros

Scientific and technical activities, administrative and support services continued to be the leading sector in terms of contribution to Monaco's GDP. Activities supporting the construction sector were primarily responsible for pushing up the sectoral GDP. Despite a 1.2% decline, financial and insurance activities remained in second place. These two sectors accounted for more than a third of GDP (+38.6%).

Construction consolidated its third position with an increase in sectoral GDP (+3.8%).

The sector which experienced the sharpest sectoral decline was accommodation and food service activities (-67.0%).

FIGURE 5 : 2020 GDP distribution



Source: IMSEE

Three sectors produce more than half (50.1%) of the wealth generated in the Principality:

- Scientific and technical activities, administrative and support services (20.3 %);
- Financial and insurance activities (18.3%);
- Construction (11.4%), which remains in the top three following a decline in the real estate activities sector.

1.3 GDP per capita

The situation in the Principality of Monaco is quite unique in many respects, in particular as regards, firstly, its resident population and, secondly, its wage-earning population.

In 2020, there were 38,350 residents in the country, and 55,919 active employees, 85% of whom lived outside Monaco. This highly unusual situation, which is not found elsewhere in the world, makes international comparisons tricky and some traditional international indicators inappropriate. This is particularly true of the classic GDP per capita indicator.

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

Firstly, GDP per capita calculated since 2005 and, secondly, GDP per employee.

1.3.1 GDP per capita : presence on the economic territory

For the calculation of GDP per capita, the European system of accounts (ESA) uses the resident population on the economic territory. However, it is important to take into account specific local economic features.

In the case of the Principality, the wage-earning population consists of "daily workers" who do not reside on the Monegasque territory. Considering their economic weight and their daily contribution to wealth creation, it seemed appropriate to create a reference population for the calculation of GDP per capita.

The reference population used consists of two components: the resident population and the non-resident population employed in the economic territory.

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

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Change 19/20 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|
| Residents (all nationalities) | 36,750 | 37,350 | 37,900 | 37,500 | 38,300 | 38,300 | 38,150 | 38,350 | 0.5% |
| Non-resident employees | 41,884 | 43,218 | 42,931 | 43,559 | 45,497 | 47,576 | 49,224 | 47,663 | -3.2% |
| of whom private sector employees excl. MC | 39,829 | 41,094 | 40,726 | 41,306 | 43,155 | 45,153 | 46,722 | 45,051 | -3.6% |
| of whom public sector employees excl. MC | 2,055 | 2,124 | 2,205 | 2,253 | 2,342 | 2,423 | 2,502 | 2,612 | 4.4% |
| Total reference population | 78,634 | 80,568 | 80,831 | 81,059 | 83,797 | 85,876 | 87,374 | 86,013 | -1.6% |

Source: IMSEE

The population census in 2016 updated previous estimates of population. The total reference population in 2020 was 86,013 (a decrease of 1,361).

TABLE 6 : PIB « per capita »

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| GDP in millions of current euros | 4,936.0 | 5,321.3 | 5,643.6 | 5,847.7 | 5,693.0 | 6,091.9 | 6,595.9 | 5,967.6 |
| Total population | 78,634 | 80,568 | 80,831 | 81,059 | 83,797 | 85,876 | 87,374 | 86,013 |
| GDP per capita in current euros | 62,772 | 66,047 | 69,820 | 72,141 | 67,938 | 70,939 | 75,491 | 69,380 |
| Price index | 99.4 | 100.0 | 101.1 | 101.7 | 102.2 | 103.2 | 104.5 | 107.2 |
| GDP per capita in constant euros | 63,134 | 66,047 | 69,034 | 70,959 | 66,477 | 68,732 | 72,219 | 64,738 |
| Change in real terms | | 4.6% | 4.5% | 2.8% | -6.3% | 3.4% | 5.1% | -10.4% |

Sources: INSEE, IMSEE

GDP per capita was €69,380, a decline of 10.4% in real terms. Since the reference population has decreased (-1.6%), the change in GDP per capita is less than the change in GDP.

1.3.2 GDP per employee

It can be used as a means of productivity measurement and comparison.

TABLE 7 : GDP per employee

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| GDP in millions of current euros | 4,936.0 | 5,321.3 | 5,643.6 | 5,847.7 | 5,693.0 | 6,091.9 | 6,595.9 | 5,967.6 |
| Wage-earning population | 50,835 | 52,239 | 51,956 | 52,447 | 54,303 | 56,303 | 57,867 | 55,919 |
| GDP per employee in current euros | 97,098 | 101,864 | 108,623 | 111,498 | 104,838 | 108,199 | 113,984 | 106,719 |
| Price index | 99.4 | 100.0 | 101.1 | 101.7 | 102.2 | 103.2 | 104.5 | 107.2 |
| GDP per employee in constant euros | 97,658 | 101,864 | 107,400 | 109,670 | 102,584 | 104,833 | 109,044 | 99,579 |
| Change in real terms | | 6.9% | 4.3% | 5.4% | 2.1% | -6.5% | 2.2% | 4.0% |

Sources: INSEE, IMSEE

GDP per employee was €106,719, a fall of 8.7% in real terms.

1.3.3 GDP per employee in Monaco and in France

French data for 2019 and 2020 are provisional.

TABLE 8 : France – GDP per employee in real terms

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Change 19/20 |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|
| GDP in billions of constant euros (base 2014) | 2,110.6 | 2,117.2 | 2,129.4 | 2,149.8 | 2,173.7 | 2,197.5 | 2,247.2 | 2,289.8 | 2,332.0 | 2,148.8 | -7.9% |
| Wage-earning population in thousands (France) | 24,367 | 24,296 | 24,375 | 24,386 | 24,489 | 24,741 | 25,069 | 25,248 | 25,534 | 25,238 | -1.2% |
| GDP "per employee" in constant euros | 86,619 | 87,141 | 87,362 | 88,155 | 88,764 | 88,822 | 89,641 | 90,694 | 91,330 | 85,141 | -6.8% |

Sources: INSEE, IMSEE

Units: thousand, billion euros 2014

TABLE 9 : Change in GDP per employee between Monaco and France, in constant euros

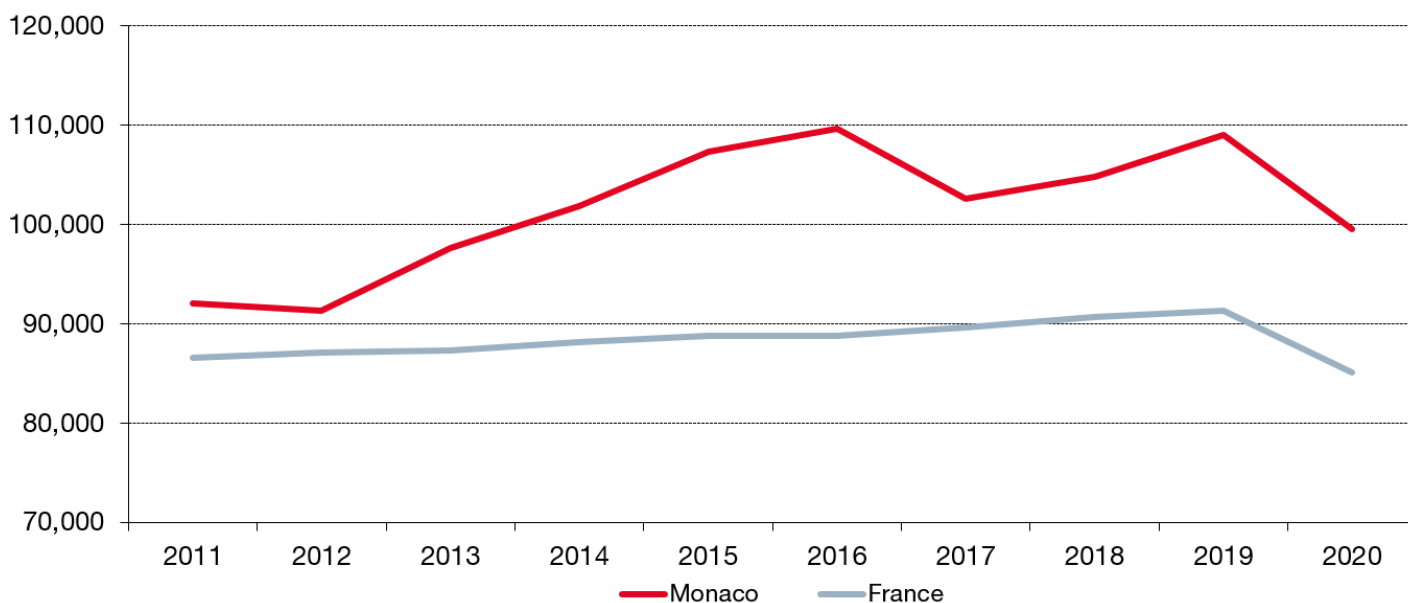
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | Change 19/20 |
|----------------------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Monaco | 92,104 | 91,326 | 97,658 | 101,864 | 107,400 | 109,670 | 102,584 | 104,833 | 109,044 | 99,579 | -8.7% |
| France | 86,619 | 87,141 | 87,362 | 88,155 | 88,764 | 88,822 | 89,641 | 90,694 | 91,330 | 85,141 | -6.8% |
| Gap Monaco / France | 6.3% | 4.8% | 11.8% | 15.6% | 21.0% | 23.5% | 14.4% | 15.6% | 19.4% | 17.0% | |

Sources: INSEE, IMSEE

Unit: euros, base 100 in 2014

GDP per employee has always been higher in Monaco than in France. In 2020, the gap between the two figures was €14,438 (17.0%). The maximum gap was reached in 2016 (€20,848).

FIGURE 6 : Change in GDP « per employee » in constant euros



Sources: INSEE, IMSEE

Unit: euros, base 100 in 2014

2. GDP calculation methodology and procedure

2.1 Cadre réglementaire et méthodologie retenue

2.1.1 The 1995 European System of Accounts (ESA 1995)

The European system of national and regional accounts (ESA 1995), effective since 1999, broadly consistent with the System of National Accounts of the United Nations (1993 SNA), defines a framework for ensuring the consistency of measurements in the European Union.

For the sake of comparability and transparency with regard to the international community and where information is available, the Principality used ESA 1995 as the basis to design its tools for measuring national wealth, i.e Gross Domestic Product (GDP) and Gross National Income (GNI)⁴.

2.1.2 The 2010 European System of Accounts (ESA 2010)

ESA 1995 is gradually being replaced by ESA 2010. For many countries (including France and Switzerland), 2014 is the year of revision of the national accounts and of publication of the first aggregates in accordance with ESA 2010.

The main changes made lie in the recognition of research and development expenditure and military expenditure.

In ESA 1995, research and development expenditure are considered as current expenditure and recorded as intermediate consumption. As a result, it reduces a country's GDP. However, this expenditure has a long-term impact that can be measured over several years. This is the reason why, according to 2010, it must be considered as investments. This increases the GDP figure.

As regards military expenditure, in ESA 1995, it is treated as the government's intermediate consumption if the military equipment cannot be used for civilian purposes (e.g. fighter planes). In ESA 2010, it was decided to record all weapons expenditure as an investment if the service life is more than one year.

Other methodological or conceptual changes have also been brought by the new European system of accounts. They have not all been completed in terms of methodology, such as the estimate of production of services by non-life insurers and reinsurers.

Given the particular situation of the Principality of Monaco (customs and monetary union with France, no national accounting system), certain economic information is not available.

This is the reason why GDP calculation in the Principality does not take certain data into account. In particular, this is the true for imputed rentals for housing (estimate of rentals which residents of an accommodation would have paid if they had been tenants and not owners of their accommodation), which is included in GDP according to ESA 2010 but never estimated in Monaco.

This also explains why the changes brought about by ESA 2010 are not taken into account for the calculation of GDP in Monaco, which continues to use ESA 1995 as reference.

The GDP estimate in the Principality is understated as certain components of GDP are not taken into account.

2.1.3 GDP at the core of economic rationale

⁴ The Gross National Income represents total primary income (gross) receivable by resident institutional units (gross operating surplus, gross mixed income, compensation of employees, taxes on production and imports less subsidies, property income (receivable less payable).

It is equal to Gross Domestic Product (GDP) minus primary income payable by resident units to non-resident units, plus primary income receivable by resident units from the rest of the world.

It provides a measurement of the primary income received by all resident institutional units and allows international comparisons.

Source INSEE

GDP is one of the aggregates that determines national wealth and how it increases, in other words "economic growth".

Along with the Gross National Income (GNI) it is a summary of the theoretical considerations of macro-economics and the practical considerations of the European framework of national accounts.

2.1.4 Determination of GDP

GDP can be approached in three ways, all equivalent in terms of results:

- as an indicator of economic activity (production approach)
GDP is the sum of gross values added (VA) by different institutional sectors or industries, less subsidies on products:
$$\text{GDP} = \text{sum of gross VA} \\ + \text{Taxes on products} \\ - \text{Subsidies on products}$$
- as an indicator of production (expenditure approach)
GDP is the value of goods and services produced by resident units and available for final uses. It is calculated as the sum of final uses of goods and services by resident institutional units.
- as an indicator of income (income approach)
GDP is equal to the sum of primary incomes distributed by resident producer units less subsidies.
$$\text{GDP} = \text{Compensation of employees} \\ + \text{Gross operating surplus and mixed income} \\ + \text{Taxes on production} \\ - \text{Subsidies}$$

The Principality's approach is that of GDP as an indicator of income insofar as this approach does not imply the immediate creation of national accounts. The key macro-economic aggregates show that this is a coherent choice.

GDP measured in nominal terms

GDP calculated in this manner is measured in "nominal" terms, i.e. in current euros.

To measure the "real" growth of the aggregates, the price effect must be separated from the volume effect. To do this, the GDP in "nominal" terms is deflated by the average price variation over the year ended. This gives the GDP in "real" terms.

The price index used for these calculations is France's price index published by INSEE. The GDP in real terms will be calculated based on the change in the consumer price index taking 2014 as the base year.

Scope of calculation: residence

The scope of calculation is the national economy. This includes all resident units, i.e. units having a centre of economic interest on the economic territory.

- Determining the coverage area implies defining an economic territory that includes the following:
 - The country's geographic territory;
 - Any free zones, including bonded warehouses and factories under customs control;
 - The national air-space, territorial waters and the continental shelf lying in international waters, over which the country enjoys exclusive rights;
 - Territorial enclaves;
 - Deposits in international waters worked by resident units.
- Coverage period: one year

- A unit is recognised as having a centre of economic interest on the economic territory when it engages for an extended period (one year or more) in economic activities on this territory. Nationality is not a criterion considered. Any other unit is classified as non-resident.
- The subdivision 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 matter in 2005. The objectives were to define the given territory and to carry out a census of economic agents. The aim is to determine the statistical elements necessary for producing financial aggregates, in particular through a national statistical survey, which is essential for constructing the GDP.

IMSEE (Monegasque Institute of Statistics and Economic Studies), established by Sovereign Ordinance no. 3.095 of 24/01/2011 and a spin-off of the Statistics and Economic Studies Division, is today responsible for calculating the Principality's GDP.

2.2.1 Determining the calculation algorithms

The main objective of this large-scale project was to define the algorithms for calculating economic aggregates (see 2.3) and to ensure the consistency of all information collected.

2.2.2 Extrapolation method used for the GDP results

Since the calculation of GDP in 2005, data on the Gross Operating Surplus (GOS) of Monegasque economic agents have been compiled through a survey.

Of the 10,311 businesses concerned in 2020, the response return rate was 76.3% (72.4% in 2019 but 88.6% in 2018). To understand the overall GOS, and address the percentage of non-responses, statistical extrapolation procedures are used (with the same methodology applied since the beginning). It was nevertheless possible to use certain data pertaining to non-responding companies, in particular the legal form, the sector and sub-sector of activity and the workforce for some of them.

Initially, discriminant variables of the GOS were determined based on the data provided by the responding companies. Based on statistical analyses, five discriminant variables were determined:

1. Size of the business: the top 100 businesses in terms of turnover were processed differently. The aim is not to reproduce the atypical nature of these companies across all non-responding companies;
2. Legal form;
3. Sector of activity;
4. The company's workforce;
5. The wage bill.

However, with the data available on the non-responding companies it was not possible to exploit all of these explanatory variables. For example, statistical analyses show that the number of employees seems to be a discriminant variable of the GOS. However, it was not possible to use this information insofar as the number of employees is rarely available for non-responding companies. The work was thus refocused on known variables of these entities, namely the legal form, the sector and sub-sector of activity.

Subsequently, the results obtained from the discriminant analyses were corrected for the bias caused by the existence of outliers. Thus, for a legal form and sub-sector of activity, 90% of the data were kept for extrapolation. The objective was to have a less volatile estimate of the GOS, not biased by outlier businesses of the class under consideration. After correcting the average GOS estimates per class, the extrapolation was possible using the data available on non-responding companies.

2.2.3 Determining GDP per sector

As part of the analyses conducted by most Monegasque authorities, 12 sectors of activity were identified across the Principality's economic fabric.

Key assumptions for calculating GDP per sector:

As regards salaries, IMSEE uses the data provided by the Social Security offices (Caisses Sociales) in Monaco.

The GOS of each sector was then extrapolated using the same method as that used for calculating total GDP (see above).

Subsidies were allocated to and weighted for each sector based on their nature and purpose.

As regards the allocation of taxes per sector of activity, several analyses were carried out.

Based on these, the following apportionment rules were decided:

- For VAT collected, a small part consists of an account "Non-apportioned by sector". It was accepted that it is possible to apply to this item a distribution key corresponding to that of the known part of VAT collected per sector.
- Similarly, it was accepted that this distribution key could apply to all the other items listed below:
 - French repayment in respect of the VAT-sharing account;
 - Import duties;
 - Annual vessel flag fees;
 - Domestic tax on petroleum products (TIPP) and excise duty on tobacco products;
 - Profits of the Tobacco Monopoly;
 - Leasehold rights;
 - Stamp duties;
 - Tax on insurance contracts;
 - Alcohol excise duties;
 - Duties levied on company cars.
- However, it was agreed to allocate the budgetary items "VAT on property" and "Transfer duties" to the real estate sector.

2.2.4 GDP in current euros and in constant euros

To measure GDP in constant euros, an inflation/revaluation index was applied to the 2014 aggregates. Considering the characteristics and the geographical location of the territory of the Principality of Monaco, it was agreed to rely on the data and assumptions made to measure the French GDP, provided by INSEE.

The annual accounts at constant prices (also called "in real terms") of the 2014 base are presented "at the price of the previous year, chain-linked, 2014 base" (1.03 Price index of supply and use of goods and services).

The objective of this presentation is to provide users of aggregates with the best time series at constant prices. The change of an aggregate at constant prices is easier to interpret when the year of constant prices is close enough to the year of the prices under review.

This is why changes in aggregates at constant prices of the annual national accounts for a given year are systematically calculated taking as basis the aggregates at constant prices of the previous year, to which are applied the price changes of the previous year. These series are then called 100 in 2014, then multiplied by the value at current prices of the aggregate in 2014, in such a way that users have at their disposal at the same time the order of magnitude of the aggregate.

2.3 GDP calculation algorithm

2.3.1 Gross Domestic Product

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

2.3.2 Compensation and social charges (D1)

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

2.3.3 Gross Operating Surplus and mixed income

If the respondent fills in the detailed Q1 questionnaire:

$$\text{GOS} = \begin{aligned} & \text{Turnover, net of taxes} \\ & + \text{Capitalised production costs} \\ & - \text{Amount of purchases} \\ & \pm \text{Changes in inventories} \\ & - \text{Consumption for the year} \\ & + \text{Operating subsidies} \\ & - \text{Taxes and similar levies} \\ & - \text{Gross Salaries \& Compensation} \\ & - \text{Total social contributions} \end{aligned}$$

If the respondent fills in the Q2 questionnaire:

$$\text{GOS} = \begin{aligned} & \text{TO / Fees and/or Treatments charged} \\ & - \text{Purchases and expenses for the year} \\ & \pm \text{Changes in inventories} \\ & + \text{Operating subsidies} \\ & - \text{Gross Salaries and Compensation} \\ & - \text{Total social contributions} \end{aligned}$$

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 VAT on property)
± French repayment in respect of the sharing account.

Taxes on imports

D212 = Import duties
+ Annual vessel flag fees

Other taxes on products

D214 = Domestic tax on petroleum products (TIPP) and excise duty on tobacco products
+ Profits of the tobacco monopoly
+ Transfer duties
+ Leasehold rights
+ Stamp duty
+ Tax on insurance contracts
+ VAT on property
+ Alcohol excise duties

Other taxes on production

D29 = Taxes related to property or to the use of real estate, machines, vehicles and equipment. Taxes on the wage bill and payroll, on authorisation to carry out a professional activity, on harmful emissions.

2.3.5 Subsidies (D3)

D3 (D393 + D399) = Operating grant from the Municipality
+ Operating grant from the CHPG
+ Operating grant from other public institutions
+ Subsidies in the educational and cultural field
+ Subsidies for public policies
+ Subsidies in the social and humanitarian field
+ Funding for sports
+ Organisation of events in the Principality

3. Annex: Real GDP growth rate

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---------------------------|-------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|---------------|
| Egypt, Arab Republic of | 1.8% | 2.2% | 2.2% | 2.9% | 4.4% | 4.3% | 4.2% | 5.3% | 5.6% | 3.6% |
| Ireland | 0.6% | 0.1% | 1.2% | 8.6% | 25.2% | 2.0% | 9.1% | 8.5% | 5.6% | 3.4% |
| Viet Nam | 6.2% | 5.2% | 5.4% | 6.0% | 6.7% | 6.2% | 6.8% | 7.1% | 7.0% | 2.9% |
| China | 9.6% | 7.9% | 7.8% | 7.4% | 7.0% | 6.8% | 6.9% | 6.7% | 5.9% | 2.3% |
| Turkey | 11.2% | 4.8% | 8.5% | 4.9% | 6.1% | 3.3% | 7.5% | 3.0% | 0.9% | 1.8% |
| Iran, Islamic Republic of | 2.6% | -7.4% | -0.2% | 4.6% | -1.3% | 13.4% | 3.8% | -6.0% | -6.8% | 1.7% |
| New Zealand | 2.3% | 2.2% | 2.7% | 3.8% | 3.7% | 3.7% | 3.6% | 3.2% | 1.6% | 1.0% |
| Australia | 2.5% | 3.9% | 2.6% | 2.5% | 2.2% | 2.8% | 2.3% | 2.9% | 2.2% | -0.3% |
| Norway | 1.0% | 2.7% | 1.0% | 2.0% | 2.0% | 1.1% | 2.3% | 1.1% | 0.9% | -0.8% |
| Lithuania | 6.0% | 3.8% | 3.6% | 3.5% | 2.0% | 2.5% | 4.3% | 3.9% | 4.3% | -0.9% |
| Korea, Republic of | 3.7% | 2.4% | 3.2% | 3.2% | 2.8% | 2.9% | 3.2% | 2.9% | 2.0% | -1.0% |
| Serbia | 2.0% | -0.7% | 2.9% | -1.6% | 1.8% | 3.3% | 2.1% | 4.5% | 4.2% | -1.0% |
| Luxembourg | 2.5% | -0.4% | 3.7% | 4.3% | 4.3% | 4.6% | 1.8% | 3.1% | 2.3% | -1.3% |
| Israel | 4.6% | 2.4% | 4.2% | 3.9% | 2.2% | 3.8% | 3.6% | 3.5% | 3.5% | -2.4% |
| Poland | 4.8% | 1.3% | 1.1% | 3.4% | 4.2% | 3.1% | 4.8% | 5.4% | 4.5% | -2.7% |
| Denmark | 1.3% | 0.2% | 0.9% | 1.6% | 2.3% | 3.2% | 2.8% | 2.2% | 2.8% | -2.7% |
| Finland | 2.5% | -1.4% | -0.9% | -0.4% | 0.5% | 2.8% | 3.2% | 1.3% | 1.3% | -2.8% |
| Sweden | 3.2% | -0.6% | 1.2% | 2.7% | 4.5% | 2.1% | 2.6% | 2.0% | 1.4% | -2.8% |
| Swiss | 1.9% | 1.2% | 1.8% | 2.4% | 1.7% | 2.0% | 1.6% | 3.0% | 1.1% | -2.9% |
| Estonia | 7.4% | 3.1% | 1.3% | 3.0% | 1.8% | 3.2% | 5.5% | 4.4% | 5.0% | -2.9% |
| Russian Federation | 4.3% | 4.0% | 1.8% | 0.7% | -2.0% | 0.2% | 1.8% | 2.8% | 2.0% | -3.0% |
| United States | 1.6% | 2.2% | 1.8% | 2.5% | 3.1% | 1.7% | 2.3% | 3.0% | 2.2% | -3.5% |
| World | 3.1% | 2.5% | 2.7% | 2.9% | 2.9% | 2.6% | 3.3% | 3.0% | 2.3% | -3.6% |
| Latvia | 6.5% | 4.3% | 2.3% | 1.1% | 4.0% | 2.4% | 3.3% | 4.0% | 2.0% | -3.6% |
| Qatar | 13.4% | 4.7% | 5.6% | 5.3% | 4.8% | 3.1% | -1.5% | 1.2% | 0.8% | -3.7% |
| The Netherlands | 1.6% | -1.0% | -0.1% | 1.4% | 2.0% | 2.2% | 2.9% | 2.4% | 1.7% | -3.7% |
| Romania | 1.9% | 2.0% | 3.8% | 3.6% | 3.0% | 4.7% | 7.3% | 4.5% | 4.1% | -3.9% |
| Ukraine | 5.5% | 0.2% | 0.0% | -6.6% | -9.8% | 2.2% | 2.5% | 3.4% | 3.2% | -4.0% |
| Saudi Arabia | 10.0% | 5.4% | 2.7% | 3.7% | 4.1% | 1.7% | -0.7% | 2.4% | 0.3% | -4.1% |
| Bulgaria | 2.4% | 0.4% | 0.3% | 1.9% | 4.0% | 3.8% | 3.5% | 3.1% | 3.7% | -4.2% |
| Germany | 3.9% | 0.4% | 0.4% | 2.2% | 1.5% | 2.2% | 2.6% | 1.3% | 0.6% | -4.9% |
| Hungary | 1.9% | -1.4% | 1.9% | 4.2% | 3.8% | 2.1% | 4.3% | 5.4% | 4.6% | -5.0% |
| Cyprus | 0.4% | -3.4% | -6.6% | -1.8% | 3.2% | 6.4% | 5.2% | 5.2% | 3.1% | -5.1% |
| Singapore | 6.3% | 4.5% | 4.8% | 3.9% | 3.0% | 3.3% | 4.5% | 3.5% | 1.3% | -5.4% |
| Canada | 3.1% | 1.8% | 2.3% | 2.9% | 0.7% | 1.0% | 3.0% | 2.4% | 1.9% | -5.4% |
| Algeria | 2.9% | 3.4% | 2.8% | 3.8% | 3.7% | 3.2% | 1.3% | 1.2% | 0.8% | -5.5% |
| Slovenia | 0.9% | -2.6% | -1.0% | 2.8% | 2.2% | 3.2% | 4.8% | 4.4% | 3.2% | -5.5% |
| Czech Republic | 1.8% | -0.8% | 0.0% | 2.3% | 5.4% | 2.5% | 5.2% | 3.2% | 2.3% | -5.6% |
| Bahrain | 2.0% | 3.7% | 5.4% | 4.4% | 2.5% | 3.6% | 4.3% | 1.7% | 2.0% | -5.8% |
| European Union | 1.8% | -0.7% | 0.0% | 1.6% | 2.3% | 2.0% | 2.8% | 2.1% | 1.6% | -6.2% |
| Belgium | 1.7% | 0.7% | 0.5% | 1.6% | 2.0% | 1.3% | 1.6% | 1.8% | 1.8% | -6.3% |
| Austria | 2.9% | 0.7% | 0.0% | 0.7% | 1.0% | 2.0% | 2.4% | 2.6% | 1.4% | -6.6% |
| Iceland | 1.8% | 1.1% | 4.6% | 1.7% | 4.4% | 6.3% | 4.2% | 4.7% | 2.6% | -6.6% |
| Euro Zone | 1.7% | -0.9% | -0.2% | 1.4% | 2.0% | 1.9% | 2.6% | 1.9% | 1.3% | -6.7% |
| South Africa | 3.3% | 2.2% | 2.5% | 1.8% | 1.2% | 0.4% | 1.4% | 0.8% | 0.2% | -7.0% |
| Malta | 0.5% | 4.1% | 5.5% | 7.6% | 9.6% | 4.1% | 8.1% | 5.2% | 5.5% | -7.0% |
| Morocco | 5.2% | 3.0% | 4.5% | 2.7% | 4.5% | 1.1% | 4.2% | 3.1% | 2.5% | -7.1% |
| Portugal | -1.7% | -4.1% | -0.9% | 0.8% | 1.8% | 2.0% | 3.5% | 2.8% | 2.5% | -7.6% |
| India | 5.2% | 5.5% | 6.4% | 7.4% | 8.0% | 8.3% | 6.8% | 6.5% | 4.0% | -8.0% |
| France | 2.2% | 0.3% | 0.6% | 1.0% | 1.1% | 1.1% | 2.3% | 1.8% | 1.5% | -8.1% |
| Greece | -10.1% | -7.1% | -2.7% | 0.7% | -0.4% | -0.5% | 1.3% | 1.6% | 1.9% | -8.2% |
| Croatia | -0.2% | -2.4% | -0.4% | -0.3% | 2.4% | 3.5% | 3.4% | 2.8% | 2.9% | -8.4% |
| Tunisia | -1.9% | 4.1% | 2.8% | 2.9% | 1.2% | 1.2% | 1.9% | 2.7% | 1.0% | -8.6% |
| Italy | 0.7% | -3.0% | -1.8% | 0.0% | 0.8% | 1.3% | 1.7% | 0.9% | 0.3% | -8.9% |
| Saint-Marin | -8.3% | -7.0% | -0.8% | -0.7% | 2.3% | 2.3% | 0.3% | 1.5% | 2.4% | -9.7% |
| United Kingdom | 1.3% | 1.4% | 2.2% | 2.9% | 2.4% | 1.7% | 1.7% | 1.3% | 1.4% | -9.8% |
| Argentina | 6.0% | -1.0% | 2.4% | -2.5% | 2.7% | -2.1% | 2.8% | -2.6% | -2.1% | -9.9% |
| Iraq | 7.5% | 13.9% | 7.6% | 0.2% | 4.7% | 13.8% | -1.8% | -1.2% | 4.4% | -10.4% |
| Spain | -0.8% | -3.0% | -1.4% | 1.4% | 3.8% | 3.0% | 3.0% | 2.4% | 2.0% | -10.8% |
| Monaco | 7.0% | 1.0% | 9.6% | 7.2% | 4.9% | 3.5% | -3.4% | 6.1% | 7.5% | -11.8% |
| Andorra | 0.0% | -5.0% | -3.5% | 2.5% | 1.4% | 3.7% | 0.3% | 1.6% | 2.0% | -12.0% |
| Lebanon | 0.9% | 2.5% | 3.8% | 2.5% | 0.2% | 1.5% | 0.9% | -1.9% | -6.7% | -20.3% |

Source: World Bank (extraction of October 6, 2021)

Gross Domestic Product 2020

November 2021

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INSTITUT MONÉGASQUE DE LA
STATISTIQUE ET DES ÉTUDES
ÉCONOMIQUES

9 rue du Gabian

98000 MONACO

www.imsee.mc

