

## Germany

### Description

Germany is the economic motor of the European Union, leading in the Autos industry, mainly through an export-based industry. It benefits from a highly skilled labor force that is, however, harmed by demographic problems, such as sustained long-term growth. Since the unification of the country, after the end of the Cold War Germany has committed itself to bring western productivity and wages to the whole economy. It was one of the pioneers in implementing a single currency in Europe, the Euro.

### Economic Overview

Germany had a sluggish economic growth throughout 2019 due to its high exposure to the industrial sector, which has suffered a slowdown in global demand, much due to the global trade tensions that have been disrupting supply chains and affecting private investments owed to all the uncertainty surrounding the sector. If the scenario was looking unfavorable to Germany, now that the coronavirus crisis has impacted the whole world, we see a big reduction in output for the year 2020. Coming both from the direct effect of the restrictions imposed on the economic activity, that completely stopped both supply and demand of most services and productive sectors, and the indirect effects, coming from the fact that the virus affected in an uniformed and synchronized way its trading partners. So even if the economy reopens in the near term, it will take a while until its manufacturing sector recovers given the lack of demand from international markets.

However, we highlight some positive aspects, namely its response both to the health crisis and economic crisis caused by the coronavirus pandemic:

- In terms of its response to the health crisis, it is important to note that Germany was one of the most prepared countries pre-covid. The country had a total of 28 thousand intensive care unit beds and since the outbreak has increased that number to a total of 40 thousand beds. The country is running as many as 100 thousand coronavirus tests a day, and has significantly increased its supply of ventilators, ordering 10 thousand in the early stages of the outbreak to add to its existing 20 thousand. All these measured (including the social-distancing ones) resulted in a very successful response to the crisis. The country is starting to control the outbreak, reporting more daily recoveries than daily new infections and was able to avoid a large number of fatalities when compared with Italy or Spain.
- Its economic response was equally impressive, the country that for years cared mostly with its fiscal stability, has opened its pockets and presented a package of direct fiscal stimulus of 10% of its GDP (EUR 356 bn) plus EUR 400 bn in loan guarantees.



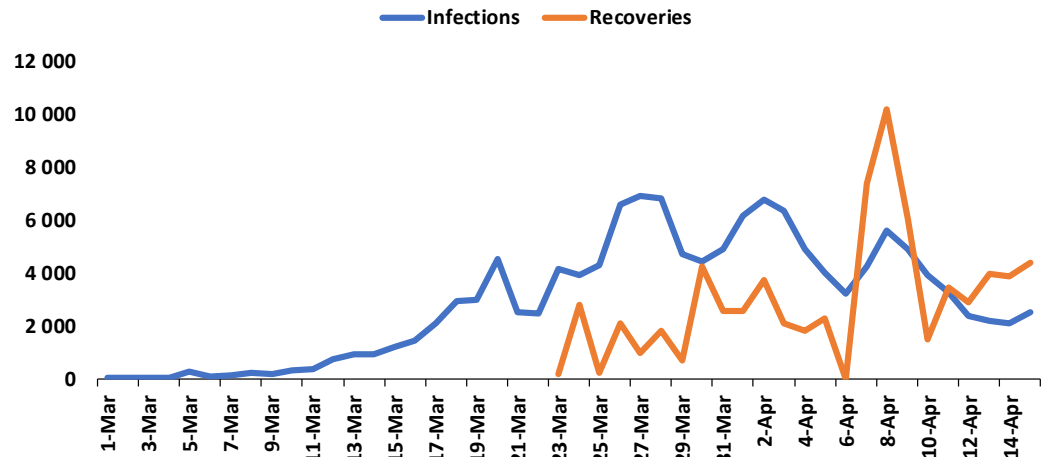
**Capital:** Berlin

Indicators	
USD GDP Bil (2019)	3344,37
USD GDP/Capita (Sep 2019)	48 265
Unemployment (Sep 2019)	5%
Inflation (Sep 2019)	1,20%
Ind Prod YoY % (Aug 2019)	-4%
Exports % GDP (Sep 2019)	37,22%
Imports % GDP (Sep 2019)	31,73

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▲ **Coronavirus****Population: 80mn/ Cases: 134,753/ Deaths: 3,804/ Recoveries: 77,000****New coronavirus daily cases vs new daily recoveries**

Source: BiG Research

**Government measures:**

- **8<sup>th</sup> of March:** Available funds of EUR 3.1 bn per year until 2024 to fight the adverse impact of coronavirus. Prepare liquidity measures for companies most affected. Relaxing the requirements for layoffs subsidized by the government.
- **10<sup>th</sup> of March:** First drive-through test facilities
- **13<sup>th</sup> of March:** The government made available EUR 500 bn to finance the state-owned bank KfW's loans to struggling companies. Suspension of the football league.
- **15<sup>th</sup> of March:** Restriction in travelers from foreign countries to only priority trips. Berlin forbids events with more than 50 people and closes gyms, cinemas and discos until April 19. Restriction in hospital visits.
- **16<sup>th</sup> of March:** Bavaria region declares estate of emergency, that is, it entered into lockdown and activated the contingent plan to increase the health services' response capacity. Schools were closed.
- **25<sup>th</sup> of March:** The government approves a supplementary budget of EUR 125 bn.
- **5<sup>th</sup> of April:** With immediate effect, special payments for employees up to an amount of 1,500 euros this year are tax and social security free. Bonuses with which companies reward the commitment of their employees in the Corona crisis will not be deducted.
- **7<sup>th</sup> of April:** The federal government proposed stricter entry requirements. The two-week quarantine will apply to Germans, EU citizens, citizens of a Schengen associated state or persons who have lived in Germany for many years, and after a stay abroad enter Germany to return to their residence.
- **9<sup>th</sup> of April:** The Cabinet has decided to help students and scientist during the pandemic. For scientist and researchers who are in their qualification phase, the maximum time limit will be extended.

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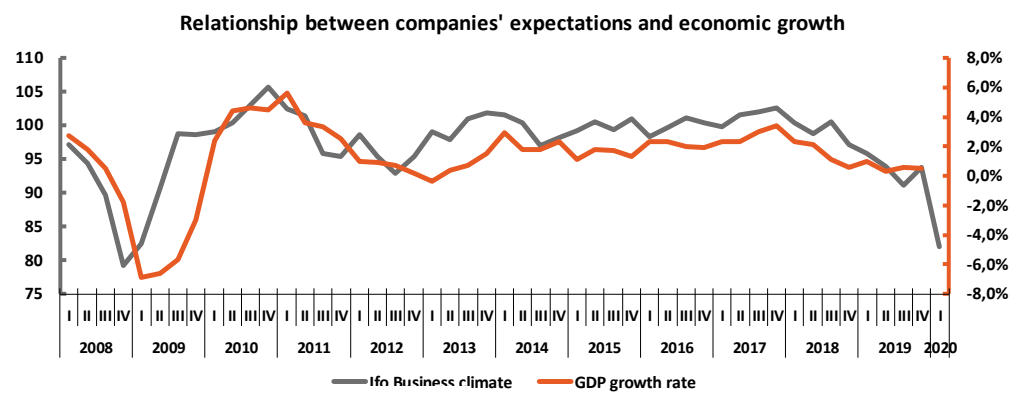
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## ▲ Economic impact from Coronavirus

According to the spring report from the German Institute for Economic Research, it is expected that economic output will decline by 4.2% due to the economic impact of the coronavirus pandemic. However, the report predicts a recovery of 5.8% for the coming year.

We do not see a reason to deviate significantly from the institute's forecasts. The first signs of an imminent recession came from the forward-looking indicator (Ifo), which reflects the way the economic growth tends to behave. If we look at what happened in 2008, the indicator fell from 99,3 to 79,2 in the same year, and the GDP ended up accompanying that fall, contracting 6.9% in the first quarter of 2009. The sharp decline for the month of March reflects our prediction to a very sharp contraction in the German economy.



Source: Ifo Institute, BiG Research

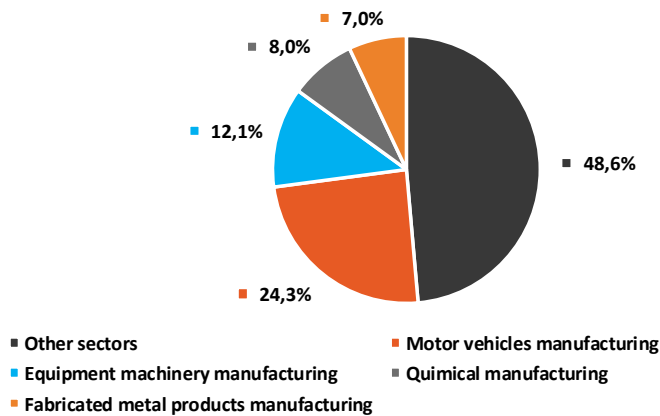
### Industrial sector dependency:

The German economy is highly dependent on its industrial production, namely the auto industry which has been under pressure due to the slowdown of demand for fossil fuel cars and the slowdown in the global economy.

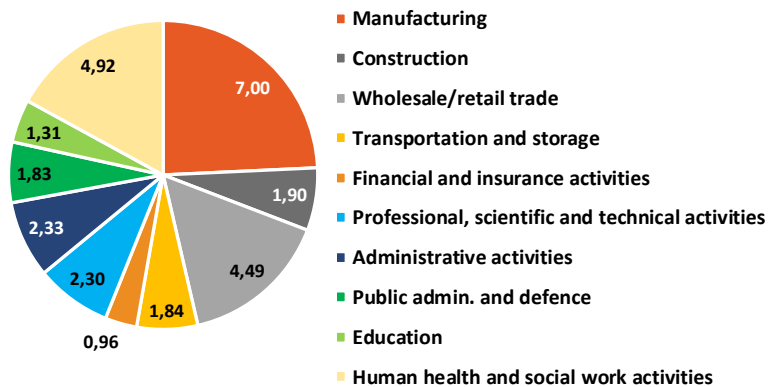
If the sector was already under pressure, now with the economic contraction, and the consumer confidence in minimums, the demand for vehicles will keep following the negative trend. Therefore, we expect that the economic recovery in Germany might be slower than the average of the Euro Area.

Looking at the chart pies below we can observe that the auto sector dominates private investment and given all the uncertainty surrounding the sector we should see a significant reduction in German private investment. The sector that employs the most amount of people is the manufacturing sector, therefore, if we observe a substantial increase in lay-offs from the industrial companies, the indirect impact in all other sectors of the economy will be massive, affecting all the domestic demand, consumption and consequently the economic growth.

Investments (total EUR 68.4 bn) per sector, 2018



Main sectors of employment, million people, 2Q2019



Source: Destatis

## Government response:

Fortunately, the government is not looking at expenses and has forgone its commitment to a balanced budget.

In 2009, Germany changed the constitution in order to establish the Schuldenbremse ("debt brake"), an article aimed at maintaining a balanced budget. Since 2016 the government cannot go over a structural deficit of 0.35% of GDP, and from 2020 on, the states cannot incur in budgetary deficit. This measure has been highly penalizing public investment, which has led to a lot of criticism, even the ECB called on a larger public investment from Germany to take advantage of the low interest rates.

To the surprise of many, on the 21 of March, the government abandoned its fiscal rule and announced an increase of EUR 156 bn in its debt in order to create a package with emergency measures. The government also created a fund to assist affected businesses, which consists of EUR 100 bn that can be used to buy stakes in some companies, and EUR 400 bn for loan guarantees.

Adding the additional budget, the stability fund and the loan to the KfW bank, the government expenditure will be around 10% of GDP (EUR 356 bn).

Government stimulus	
Amount	Description
EUR 156 bn	Additional budget
EUR 100 bn	Stabilization fund (WSF)
EUR 100 bn	Loan to KfW (state bank)
EUR 400 bn	Loan guarantees from the government
Fiscal saving between 2012-2019	
EUR 237 bn	

Source: BiG Research

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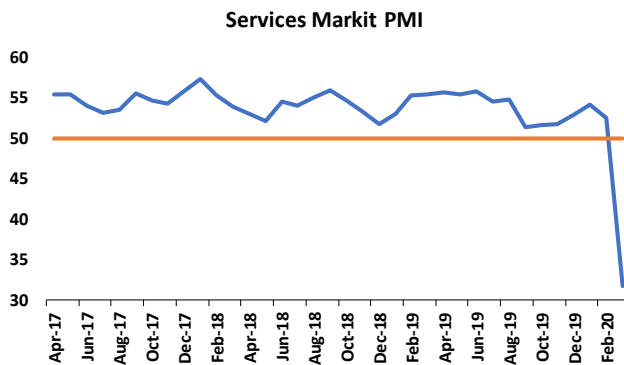
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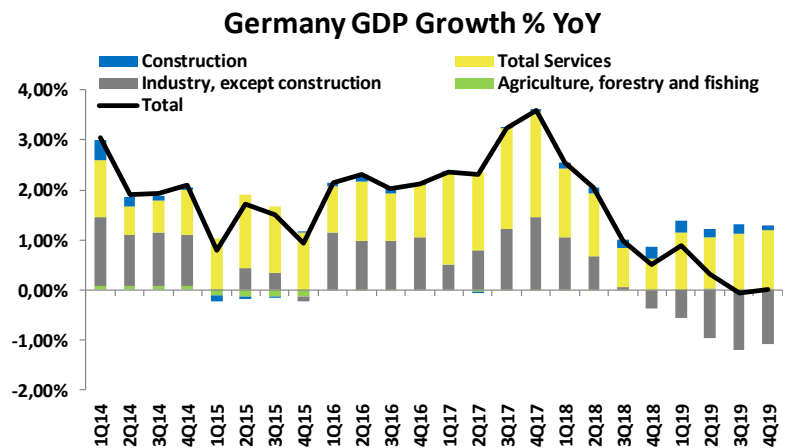
## ▲ Economic Analysis

### 1. GDP Breakdown

Below we analyze the main contributors to GDP growth, being the main ones Services and Production. Since 2014, the service sector has been growing its influence on growth and production has been decreasing, even producing a negative effect since roughly the last quarter of 2018.



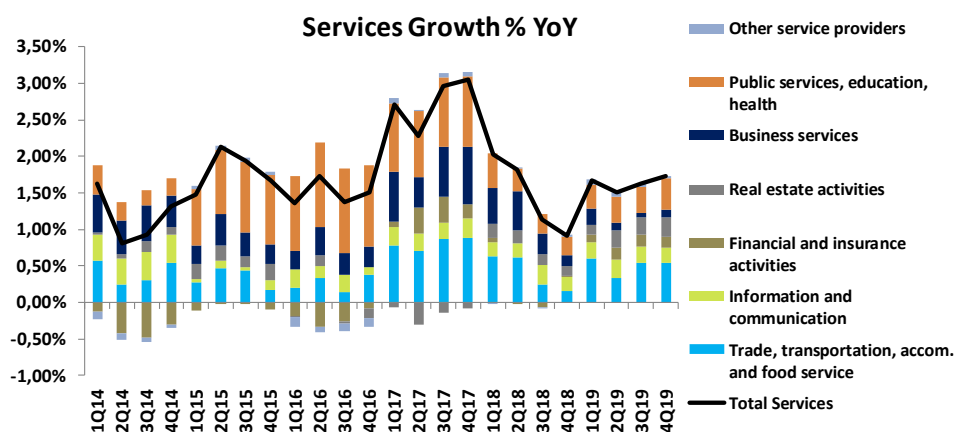
Source: Markit



Source: Destatis

#### 1.1 Services:

In the service sector, historically the main contributors were Public, Health and Education; Trade, Transportation, Accommodation and Food services; and Business Services. The last had increased importance in the last 2 years (2017 and 2018) but has been decreasing its contribution to the growth in services. Public, Health and Education remains the most relevant segment contributing to growth and has been so since 2015.



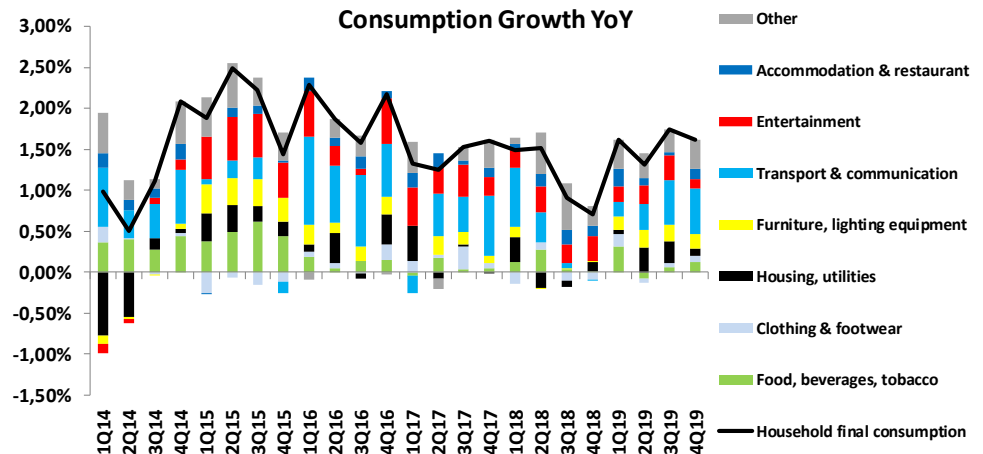
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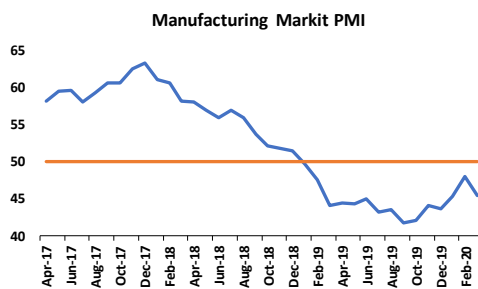
What has been supporting the German economy in the last few quarters is its service sector driven by its domestic consumption. German household consumption grew at a yearly average rate of 1.55% per quarter. The major contribution to this growth rate was the Transport & Communication component, with and yearly average rate of 0.42%.



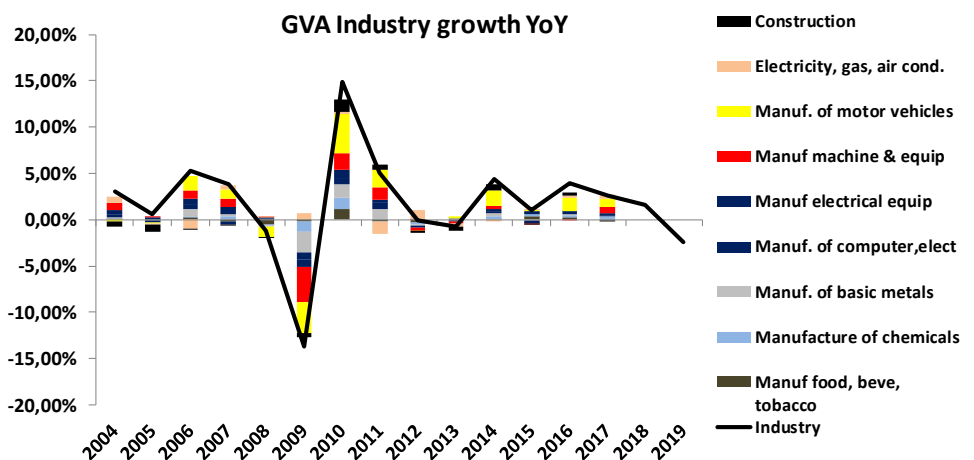
Source: Destatis

## 1.2 Industry:

If we look at production, we see that it has been somewhat cyclical over the years, with growth between 0% and 6%, until the beginning of 2018, and from then on, it has been on a downward trend, mainly due to the impact of trade wars and rising protectionism on industrial production, especially in the Autos sector, which represents around 20% of all industrial production. Currently Production is falling at around 4% YoY.



Source: Markit



Source: Destatis

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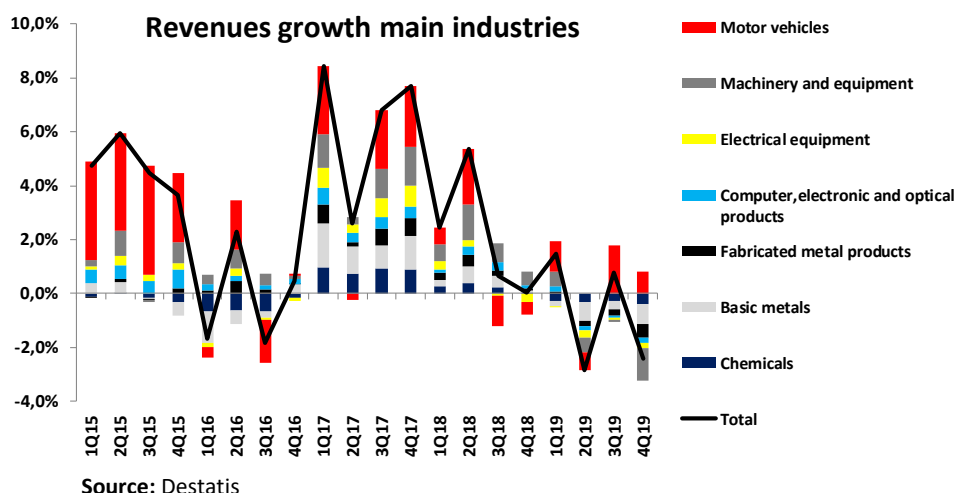
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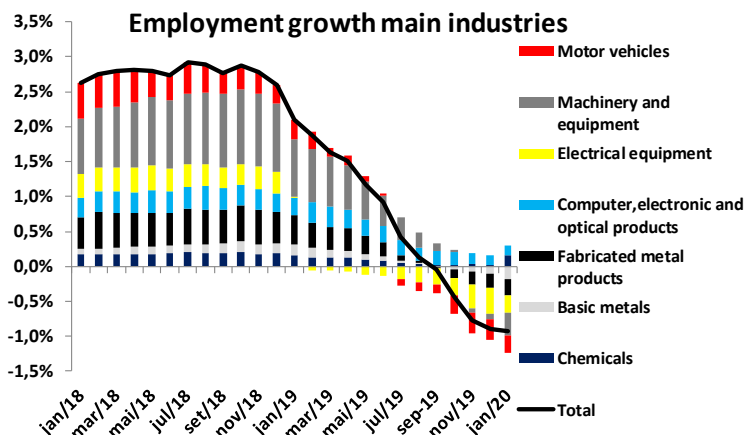
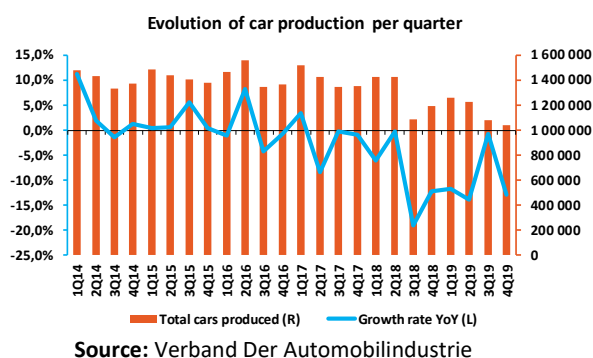
Revenues in the industrial sector are being pressured by the market conditions: lower global demand worldwide, economic slowdown in Europe which is a net importer from Germany, Brexit uncertainty, trade war and its high dependency on the auto sector.

Throughout the analyzed period, the auto sector represented most of the revenues' growth, contributing 1.7% YoY of a 3.7% YoY growth (from 1Q15 to 2Q18), since then the sector has been under underperforming due to its cyclicality and the transition to electric vehicles. From then on, all industry has been under pressure even contracting on some quarters.



The weakness in the sector – which is vital to the German economy – has been reflected to the job market. Since the last quarter of 2018 the growth rate of employment in the main industries has been decreasing and since mid-2019 it became negative, meaning that the sector is contracting to the point where jobs are being lost.

All the industries connected to the auto sector suffered from the slowdown in production, and since these industries are the bulk of all the employment in the industrial sector (827 thousand and 987 thousand people employed in the motor vehicles, and machinery and equipment industry, respectively) the loss of jobs might result in negative spill-over effects on other sectors of the economy, namely the services sector.



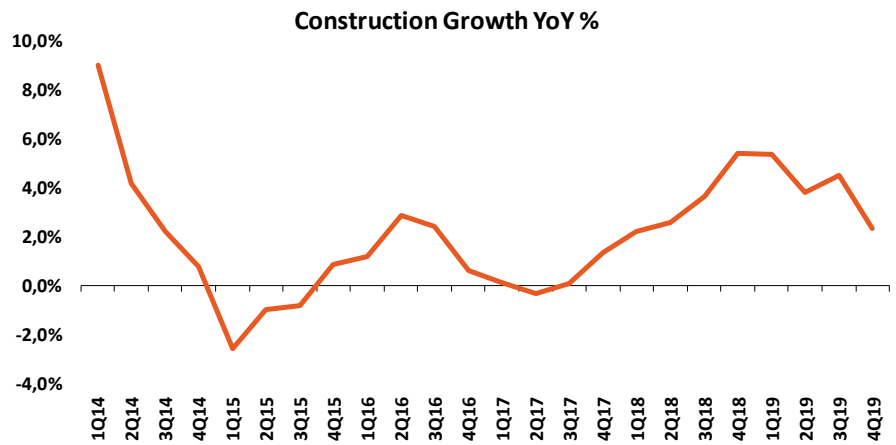
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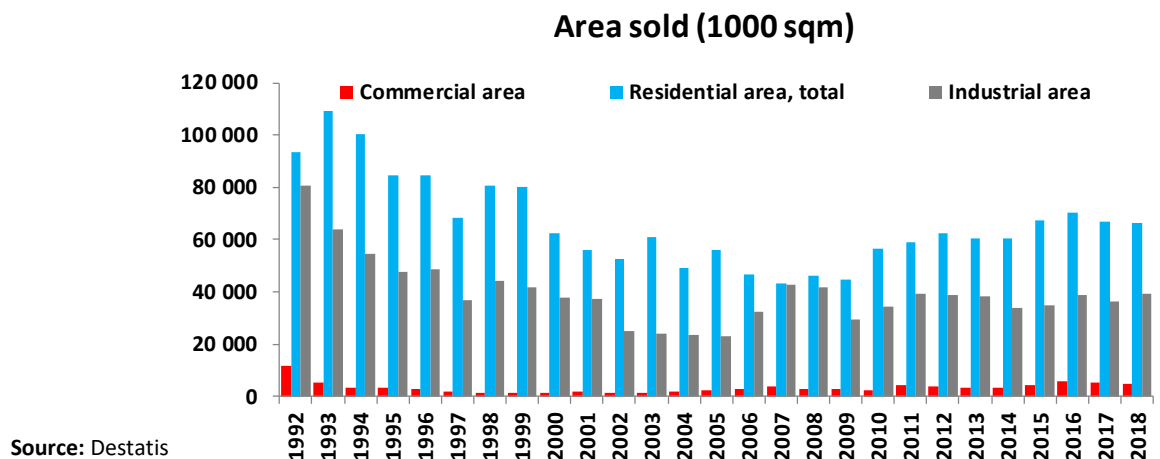
## 1.3 Construction:

From mid-2014 until late 2017 the construction sector was growing at a weak pace, with some contractions during that period. This is explained by the housing problems that Germany has had over the past years. Like the housing shortage in Berlin due to the stagnation of building permits. Since 2018, the sector has picked up its pace due to increases in private investment in the housing sector, but still with construction operating at full capacity. Offer remains below potential demand.



While many European countries experienced a housing boom during the first decade of the 2000s, housing prices in Germany stagnated, reflecting a lack of financialization in the German housing market. However, since the global financial crisis, the housing market has gained much more attention, and we start to observe a booming in housing prices and the participation of listed real estate companies.

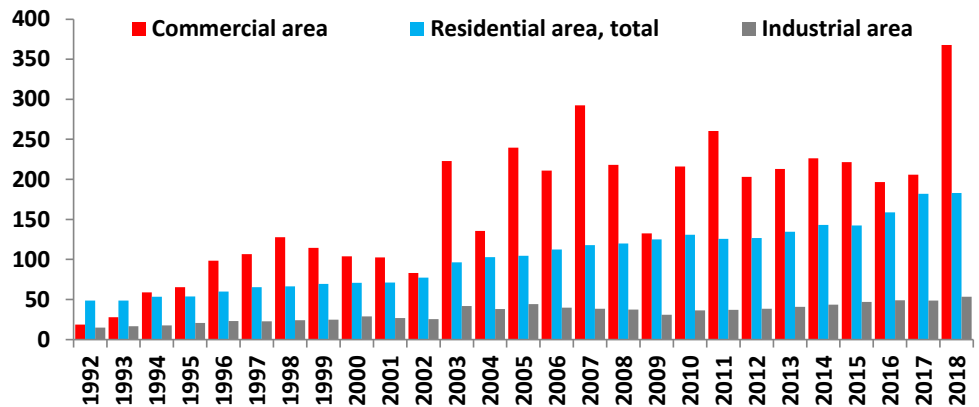
The area of real estate sold is mainly for residential purpose, however, the industrial area also dominates a vast part of the total square meters sold, which is quite straightforward due to the space-use intensity of industrial production. The housing market has been growing significantly since the global crisis and that has reflected in the - now much larger - contribution of the construction sector in the country's total production.





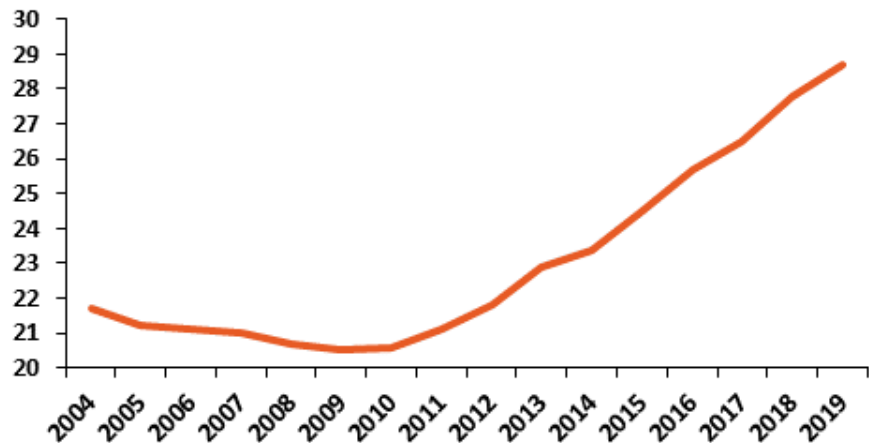
Although the Commercial area occupies the lower amount of purchased square meters, its is clearly the segment that value per square meter is higher and shows a predominant cyclicity that we do not observe in other housing segments. The residential housing price per square meter is much more stable across time and has been following an increasing trend since the start of the analysis. It went from EUR 48 per square meter in 1992 to EUR 183 in 2018. The industrial area, like the residential area has been on a constant positive path.

## Average Purchase value (€/sqm)



Source: Destatis

## Price-to-rent ratio of residential houses

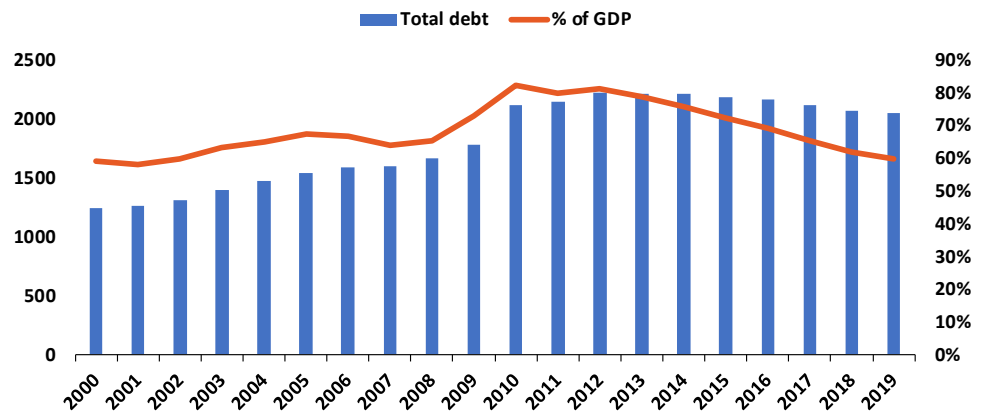


Source: Bundesbank

## Government Debt

If there is one thing that Germany can be proud of is its commitment to its public finances. During the years that succeeded the global financial crisis, the combination of higher debt level with a lower economic production resulted in the increase of the debt-to-GDP ratio from 64% in 2007 to 82% in 2010 and since then, due to an exceptional decade of economic growth and the introduction of the Schuldenbremse ("debt brake"), an article directed to the budgetary stability, the debt level has been on a constant decline and in 2019 sits at 60% of GDP.

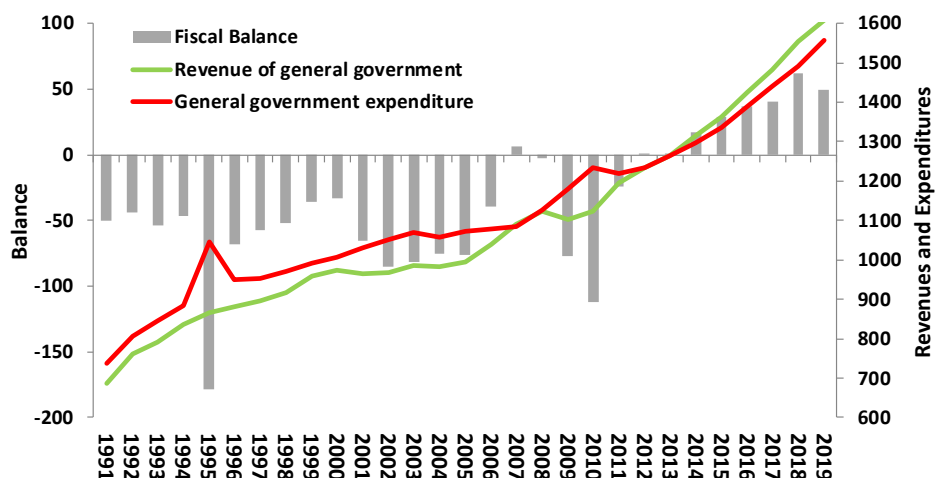
Central government total debt evolution, EUR Bn



Source: Bundesbank

Since 2012 the government has been running budgetary surplus year after year, which has resulted in a total fiscal saving of EUR 237 bn. These years of responsibility towards the health of the public finances – highly criticized by some European institutions, due to the lack of fiscal stimulus – have provided the government with a fiscal capability to respond to the coronavirus crisis that lack on any other member state. The government has already presented a fiscal package with direct payments equal to 10% of GDP (EUR 356 bn) and an additional total of EUR 400 bn of loan guarantees.

Germany Fiscal Balance



Source: Bundesbank

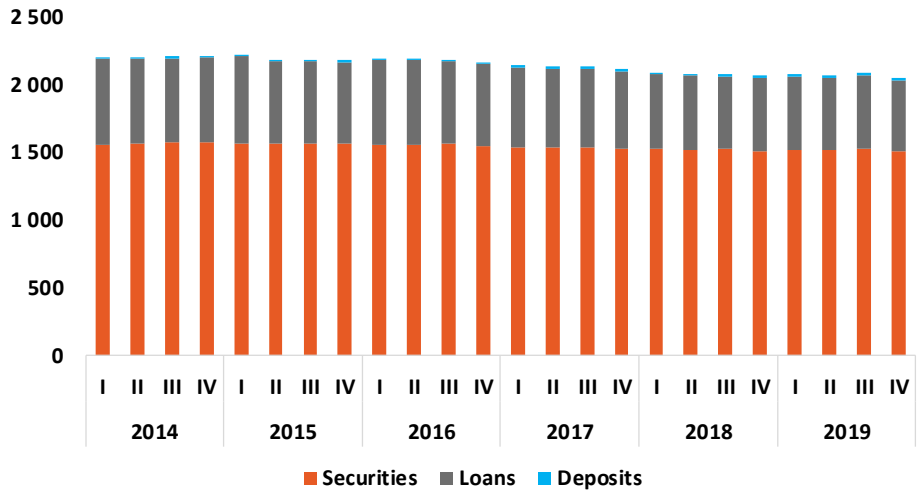
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Around 73.4% of the German debt is composed by debt in the form of securities, 25.8% in the form of loans and less than 1% in the form of deposits.

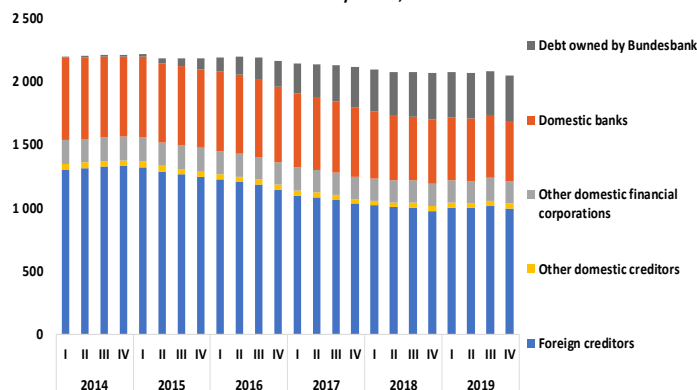
**Government total debt by instrument, EUR Bn**



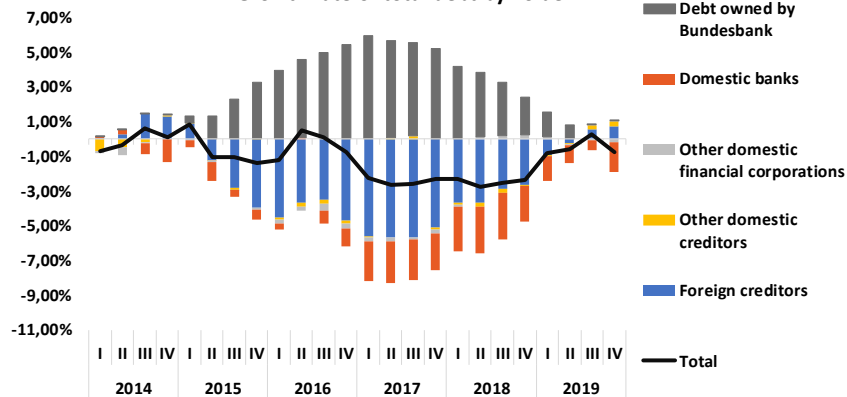
Source: Bundesbank

The distribution of the emitted debt by holder has been changing drastically in recent years. Although the majority of German debt is held by foreign creditors and domestic banks, the debt owned by the Bundesbank (German central bank) has been increasing significantly since mid-2014 until late 2018 (period when the ECB conducted the first Asset Purchase Programme). Looking at the graphs below, gives a solid idea of the impact that the ECB's monetary policy has incurred in the European debt market, and therefore its importance in preserving the low funding costs throughout Europe.

**Total debt by holder, EUR bn**



**Growth rate of total debt by holder**



Source: Bundesbank

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## Government Revenues

Income Tax (Progressive)	
Income	Tax
up to €9,169	0%
€9,169 to €14,255	Linear increase 14% to 24%
€14,255 to €55,961	Linear increase 24% to 42%
€55,961 to €265,327	42%
More than €265,327	45%

Social Contribution Tax		
Insurance type	Employer Contribution	Employee Contribution
Health	7,30%	7,30%
Nursing care	0,775-1,275%	1,275-1,775%
Pension	9,30%	9,30%
Unemployment	1,50%	1,50%
Accident	1,25%	0%

Value Added Tax	
Standard Tax	19%
Reduced tax for some goods	7%

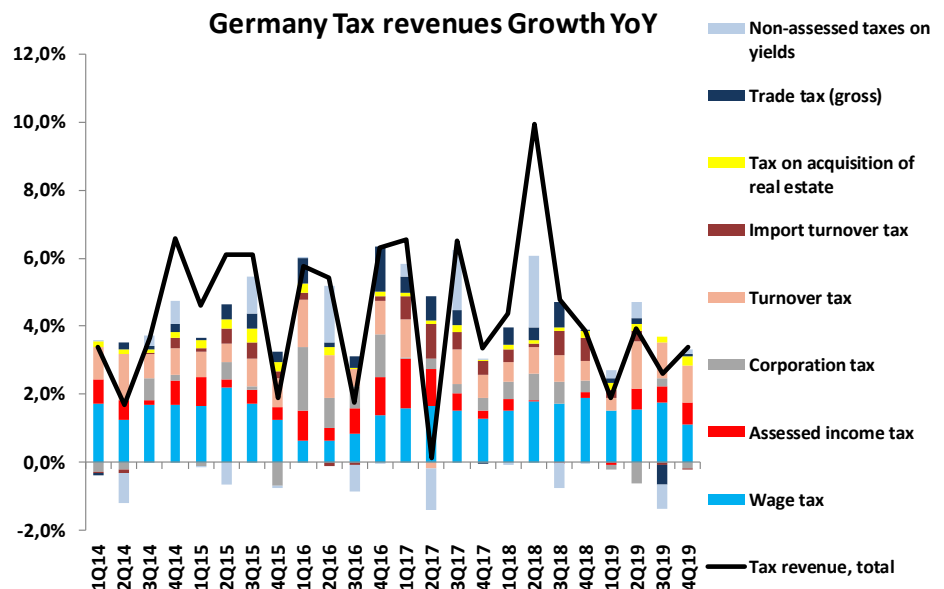
Corporation Tax	
Corporate tax	15%
Solidarity Surcharge	5,5% of Corp. Tax
Trade Tax	Avg around 14% of trade

Income tax in Germany is progressive, which means that everybody is exempt from income up to €9,169, pays a linear tax from 14% to 24% in income from €9,169 to €14,255, etc. There are also contributions from employer and employee to health, pension and unemployment insurance.

The VAT has a standard rate of 19% and a reduced tax of 7% for goods such as certain food, books and magazines, flowers and transport.

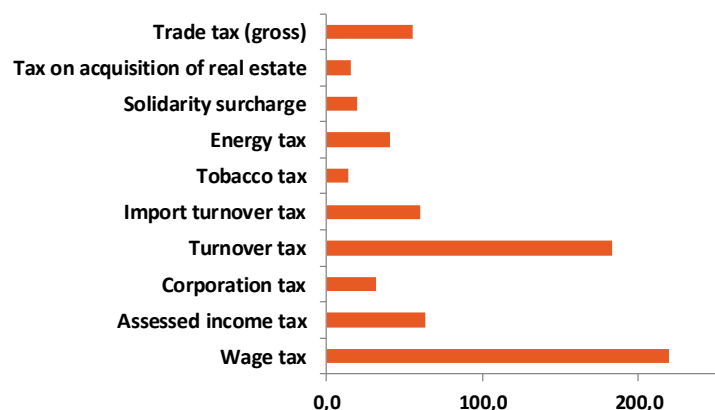
The Corporation Tax is 15% but, on that value, a 5.5% social surcharge is charged and a tax on trade is charged by each local state (which on average is around 14%). So, in total corporation tax is around 30%.

As visible in the bars graph below, almost a third of the total of 2019 tax revenue (€799 bn) came from wage tax (€220 bn), while VAT contributed with around €243 bn (including import turnover tax). Corporations paid around €110 bn, including the corporation tax, social surcharge and trade tax.



Source: Destatis

### Germany tax revenues 2019 (€ bn)



Source: Destatis

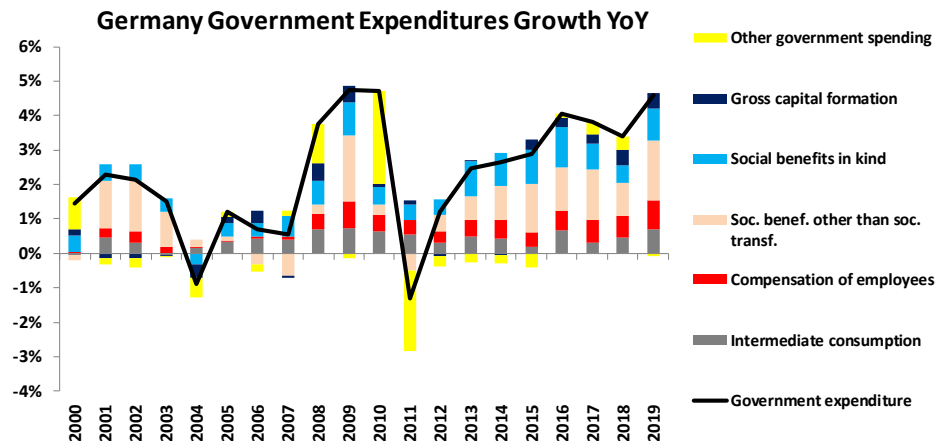
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## Government Expenditures

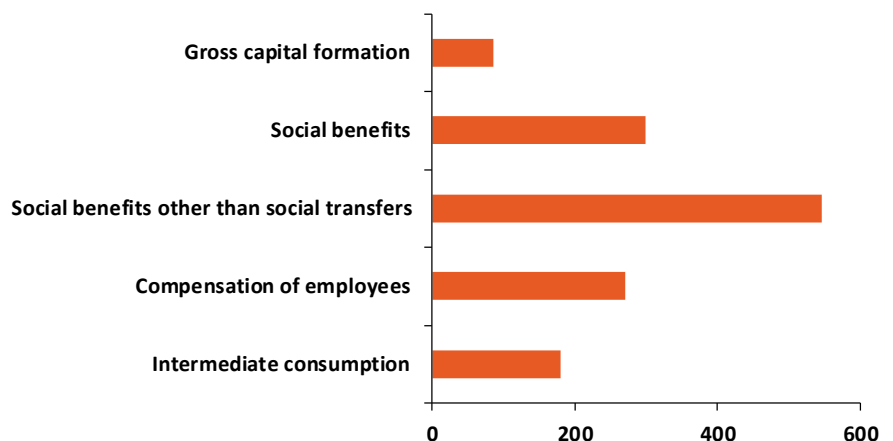
Since the year 2000, the German government expenditure have grown at average yearly rate of 2.3%, while the government revenue grew 2.6% on average. This shows how stable are the country's finances, if the same trend persists for the next decade, in 2030 the government will have a budget surplus equal to EUR 135.6 bn, or 4,6% of the 2019 GDP.



Source: Destatis

The major contribution for the government spending is the social benefits, which represents roughly 54% (EUR 846 bn) of total government expenditure in 2019 (EUR 1,559 bn). Compensation of employees also take a great deal of the public finances, in 2019, it amounted to EUR 272 bn, which represents 17% of total spending.

## Government expenditure 2019 (€ bn)



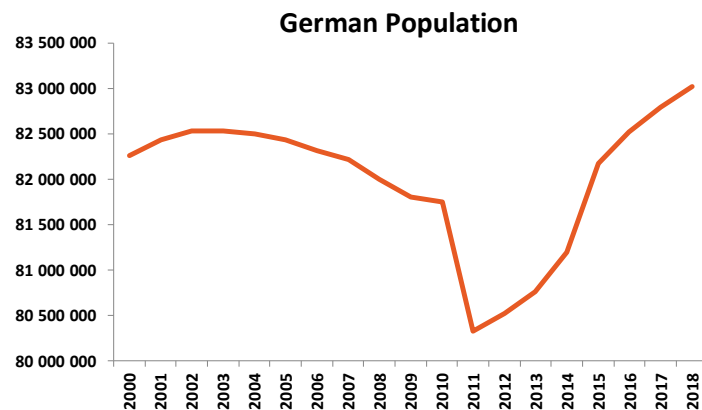
Source: Destatis

## Population

Indicator	
Population (April 2020)	83,723,436
Pop Growth rate (2020)	0.32%
Urban Pop % (2019)	77.4%
Median age (Years) (2018)	47.4
Health Exp % GDP (2015)	11.2%
Education Exp %GDP (2015)	4.8%
School life expectancy (Years) (2016)	17
Unemployment (Sep 2019)	5%
Infant Mortality rate(/live births) (2018)	3,4/1000
Mother Mean age at 1st birth (2015)	29.4

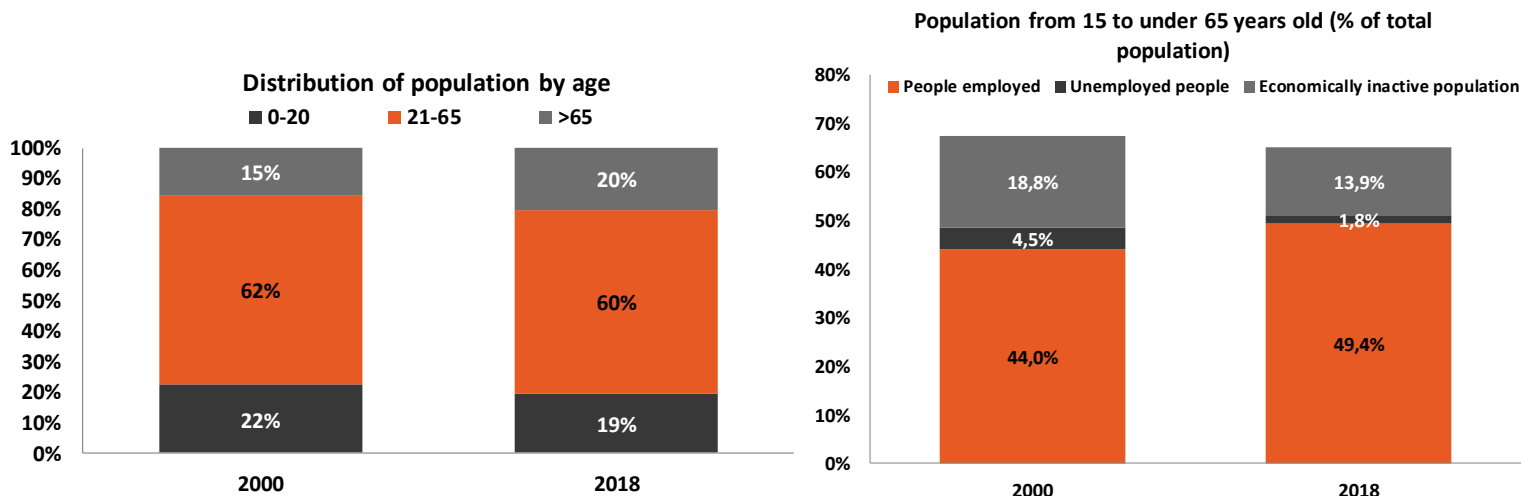
Germany population is currently near 84 million people. In 2011 the new data made available by the statistics office Destatis following the first census since reunification in 1990, revealed a population of 80.2 million, a decline of 1.5 million people from the previous year. The data revealed that the number of foreign passport-holders resident in Germany was overestimated.

The total number of foreigners is 6.2 million (1.1 million less than previously assumed), which makes 7.7% of the total population. The number of non-German background residents is around 15 million (19% of the total population). Hamburg and Berlin have the highest proportion with 27.5% and 23.9% respectively, while in the states of former East Germany the figure is less than 5%.



Source: Destatis

Although the population is increasing, it is getting older and from 2000 to 2018 we see a substantial change in the distribution of the population. In a matter of 18 years, the senior population went from 15% of the total to 20%. In the positive side, even with the population in the interval between 15 to under 65 years old decreasing (from 67.4% to 65%), the number of people employed increased, due to a combination of the reduction in the unemployed people and the economically inactive people.



Source: Destatis

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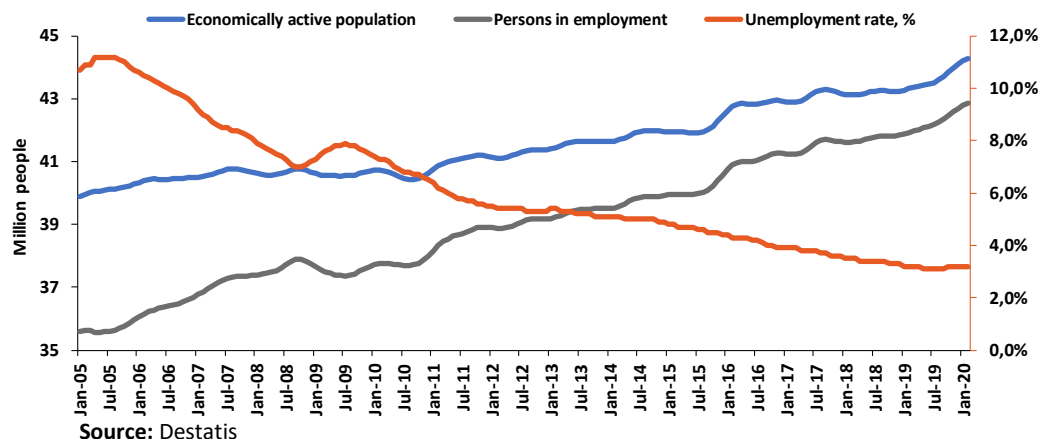
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## ▲ Labor Force

Since the early 2000s the German unemployment rate has been on a descending trend, from 10.9% in February 2005 down to 3.2% fifteen years later. Germany is currently going through its longest uninterrupted economic cycle, but even the financial crisis of 2008 was not enough to sharply increase the unemployment rate like it happened in other neighbor economies. This positive development in German labor market is even more impressive considering the unprecedented increase in economically active population. Meaning that to have such a reduction in the rate of unemployed, the number of persons in employment had to increase at an even higher pace converting to the total economically active population.

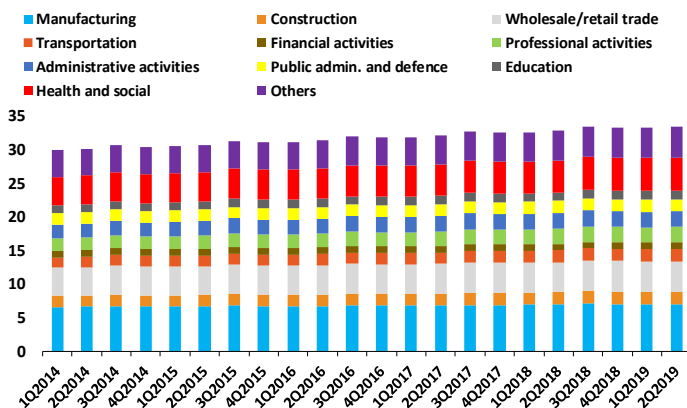
German's Labor market evolution



Source: Destatis

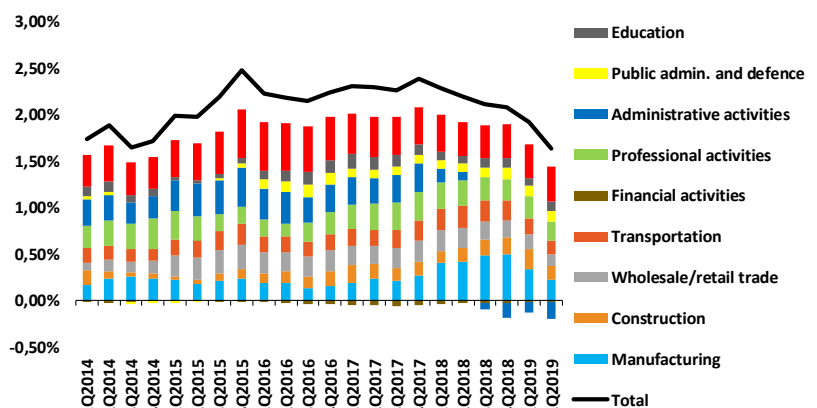
When we look at the constituency by sector of the German employment, the largest proportion is occupied by people employed in the manufacturing sector, around 7 million, or 20% of the total employment. Germany also has a very strong health care system, accounting to 14.7% of total employment, which has been responsible to the successful response to the Covid-19 health crisis. As of today (16/04/2020) the proportion of Germans who have died after a Covid-19 diagnosis is just 2%, which is very low when compared with 13% in Italy and 10% in Spain.

Total employment by main sector, million people



Source: Destatis

Employment growth rate by main sectors, YoY



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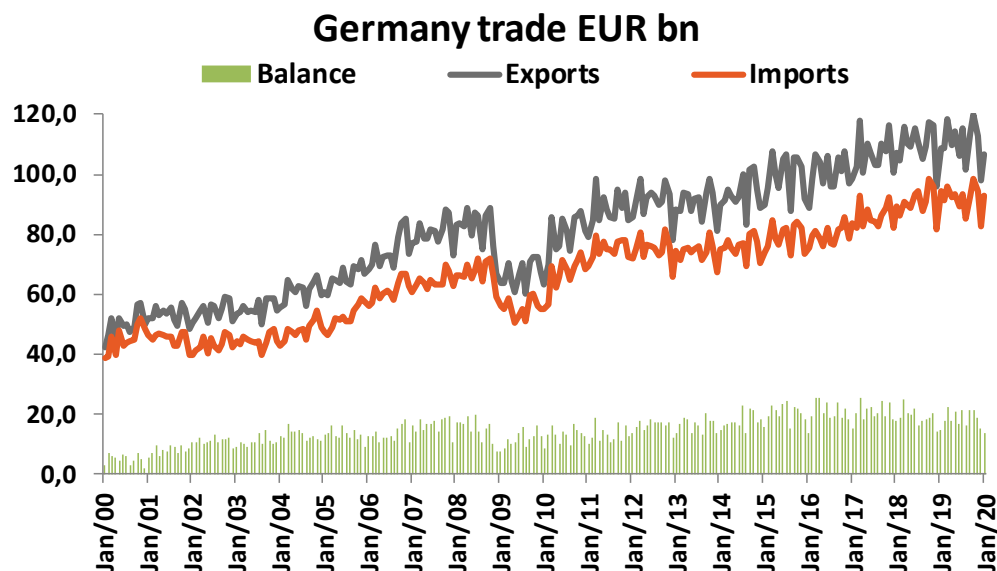
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## External trade

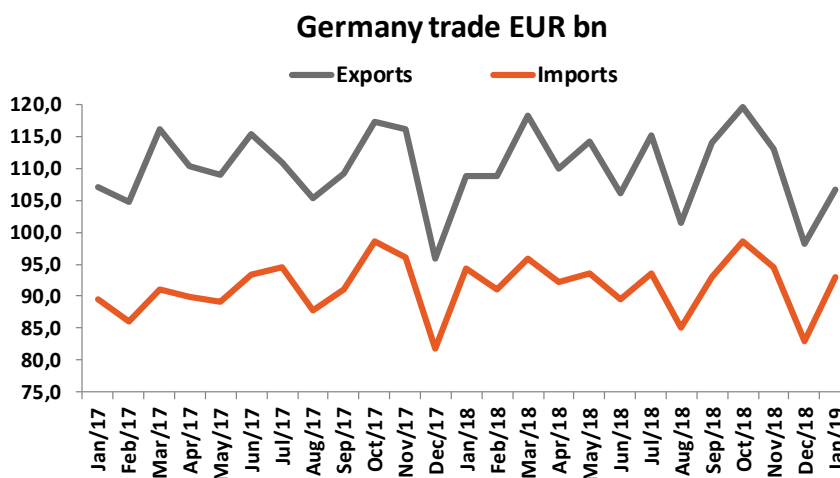
If before we mentioned that Germany is known by its commitment to its public finances, one can also argue that its export driven economy is inherent in the country's culture and history.

Germany has been a net exporter since the 60s and if we analyze the last 20 years, its exports increased from around EUR 600 bn in 2000 to EUR 1.33 tn in 2019.



Source: Destatis

Despite trade wars, the exports and imports from Germany have not changed significantly since beginning of 2018. The slight slowdown in exports was mostly due to the vehicle segment, so before the most recent development, the pandemic that impacted the world in early 2020, there was no major slowdown in sight. However, the picture has changed, and we expect export driven economies to suffer severely from the global slowdown and restrictions in the industrial sectors that disrupt supply chains.

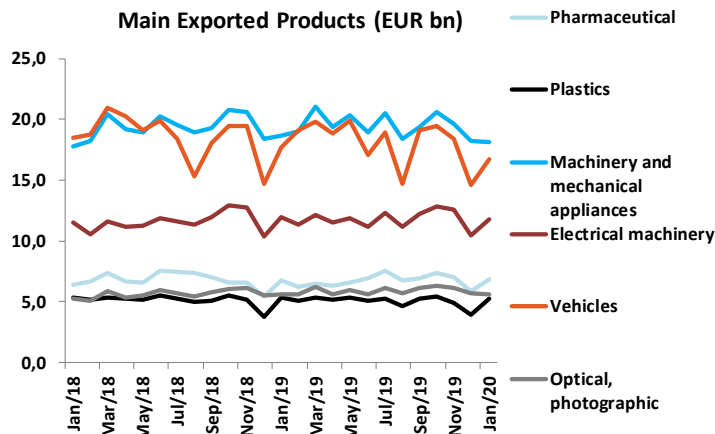


Source: Destatis

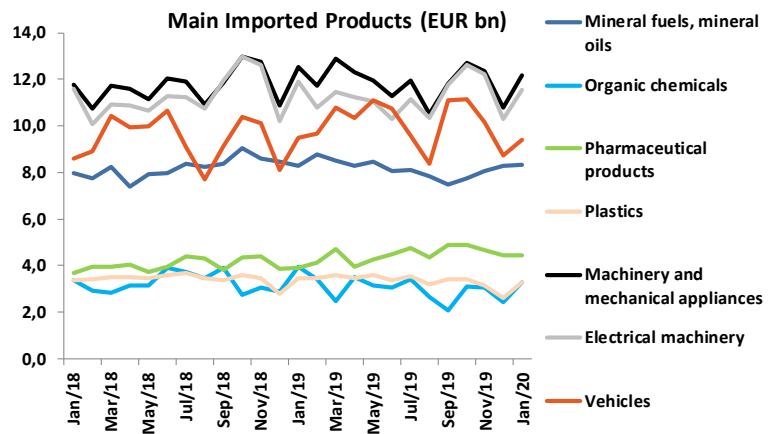
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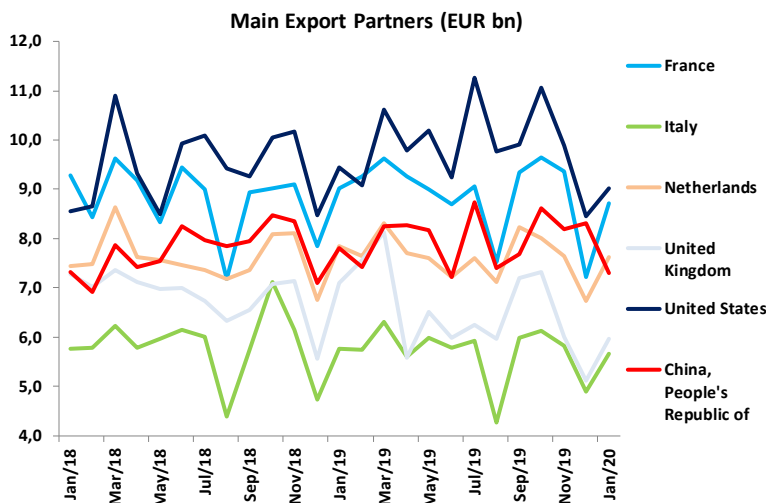
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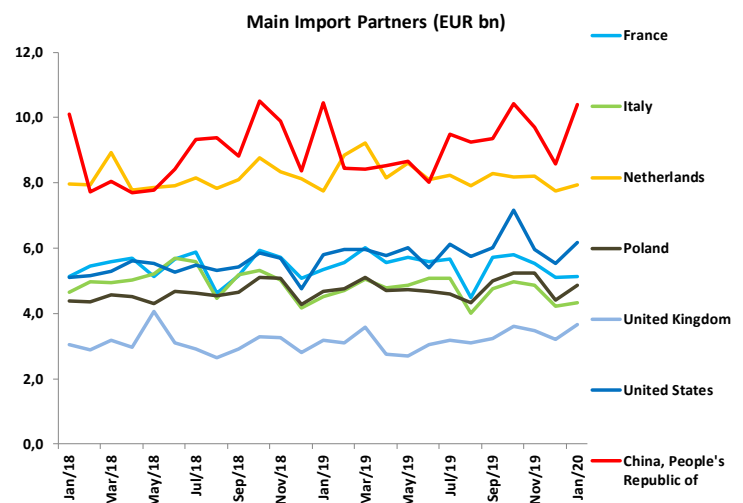
Source: Destatis



Source: Destatis



Source: Destatis



Source: Destatis

## Energy

Electricity	
Production (bn kWh) (2016)	612.8
Consumption (bn kWh) (2016)	536.5
Exports (bn kWh) (2016)	78.86
Imports (bn kWh) (2016)	28.34
Installed cap (bn kWh) (2016)	0.209
From Fossil Fuels % Cap (2016)	41%
From Nuclear plants % cap (2017)	5%
From Hydroelectric % cap (2017)	2%
From Other Renewables %cap (2017)	52%

Crude Oil (CO)/ Refined Petroleum (RP)	
Production (CO) (mn bbl/day) (2018)	0.041
Exports (CO) (mn bbl/day) (2017)	0.066
Imports (CO) (mn bbl/day) (2017)	1.84
Reserves (CO) (mn bbl) (2018)	129.6
Production (RP) (mn bbl/day) (2016)	2.16
Consumption (RP) (mn bbl/day) (2017)	2.46
Exports (RP) (mn bbl/day) (2017)	0.494
Imports (RP) (mn bbl/day) (2017)	0.883

Natural Gas Billion cu m	
Production (2017)	7.9
Consumption (2017)	93.36
Exports (2017)	34.61
Imports (2017)	119.5
Proved Reserves (2018)	39.5

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## Government



German government is based on a federal parliamentary democratic republic. As such the executive power is divided between the federal government and the 16 local states. The President, Frank-Walter Steinmeier, is the head of state while Chancellor Angela Merkel is the head of government.

The next elections for presidency will be held on November 2022 and for Chancellor will be on 2021.

**President:** The President is elected for 5-year terms by the Federal Assembly. This assembly only has that role and is formed by the Bundestag and an equal number of state delegates.

**Chancellor:** Usually the candidate of the largest party which with help of smaller ones forms a coalition, as it is elected by the Bundestag. The Chancellor creates the main ideas and may change the federal ministries and ministers; however, they must be approved formally by the President.

**Angela Merkel:** Merkel was born in Hamburg and moved to East Germany still an infant. She currently serves as the current Chancellor of Germany since 2005 and was the leader of the Christian Democratic Union (CDU) from April 2000 to December 2018. Merkel studied physics from 1973 to 1978 in the Karl Marx University in Leipzig and then worked at the Central Institute for Physical Chemistry of the Academy of Sciences in Berlin-Adlershof from 1978 to 1990. The fall of the Berlin Wall served as a catalyst for her entrance in politics, joining the Democratic Awakening, party that was merged with CDU, that eventually led her to earn a seat in the Bundestag. She then was appointed Minister for Women and Youth (1991-1994); Minister for the Environment, Nature Conservation and Nuclear Safety (1994-1998); and General Secretary of the Christian Democratic Union (1998-2000). In 2005 was appointed as the first female chancellor, leading the coalition between CDU, CSU and SPD. In 2009 reinforced her position obtaining the largest share of the vote and forming a coalition with FDP. In 2013, won again with 41.5%, and started a new coalition with the SPD. In 2017 was elected for her fourth consecutive term.

Bundestag (709)		
Govt	Union	246
	SPD	152
Opposition	AfD	91
	FDP	80
	The Left	69
	The Greens	67
	Non-inscrits	4

## Legislative:

### Bundesrat (or the Federal Council)

It is the upper house of German legislative power and serves mostly in an advisor capacity. It is composed by members of the state governments and the number of representatives depends on its population. There is a total of 69 seats in the parliament. It must agree with laws about finances shared by the federal and state government, but it means that most of the time it will agree as laws are made by state and local agencies.

### Bundestag (or the Federal Diet)

This house has at least 598 members, elected for 4-year terms. This where the real power resides since is the only organ of political power that the population directly votes on. In elections Germans have right to 2 votes, one for a member of the Bundestag (that will have roughly half of the seats) and another for a political party that will occupy the remaining half of the seats, proportionally to

the number of votes they got. The Bundestag will then elect the Chancellor. The total number of seats can vary since one person can vote for a member of one political party and the vote on another political party. For a small party to gain seats in Bundestag must get at least 5% of the national vote or win at least 3 constituency seats. Bundestag is responsible for most of the law making and has the power of exclusive jurisdiction (to make laws by itself).

**Vote of no confidence:** The Chancellor cannot be removed from office unless the Bundestag assigns a successor.

### German Parties:

**CDU/CSU (or Union):** The Christian Democratic Union and the Christian Social Union joined in a political alliance. They were both established after WWII and share a center-right vision. The CSU contests elections only in Bayern while CDU contests in the other 15 federal states. Recently CSU wanted to impose restriction in refugee's asylum, while CDU affirmed it was impossible to control the inflow of refugees in the borders.

**SPD:** The Social Democratic Party of Germany, was established in 1863 and is now led by Maria Luise Dreyer. It is a social-democrat party with a liberal capitalism framework. The party is one of the main defendants of European integration. Most of the support for SPD comes from large cities, especially from northern and western Germany and from Berlin. In 2017 German elections lost 40 seats and in 2019 lost 11 seats in European Parliament elections. Martin Schulz was the leader of the party until 2018.

**AfD:** The Alternative for Germany is a far-right party. It was founded in 2013 and missed for few votes that year the 5% threshold to gain seats in Bundestag. However, in 2014 gained 7 seats in European election and in 2017 won 94 seats in Bundestag. It has been described as racist, nationalist and Eurosceptic. Alice Weidel is the party group leader in Bundestag.

**FDP:** The Free Democratic Party is a liberal party led by Christian Lindner. It was founded in 1948, and since then has been in several coalitions with Union and SPD. In 2013 failed to surpass the 5% threshold and lost all its seats in Bundestag, recovering later in 2017 with around 10% of the votes.

**The Left:** Founded in 2007 through the merger between Party of Democratic Socialism and the Electorate Alternative for Labour and Social Justice. The party desires the success of socialism over capitalism. It is called far left by some and there are some suspected extremist tendencies, however it is not clear.

**The Greens:** It was formed in 1993 as the German Green Party and the Alliance 90 joined. It focuses on environment, economic and social sustainability. It has been gaining popularity within young voters and achieved 20% of the votes for European elections.



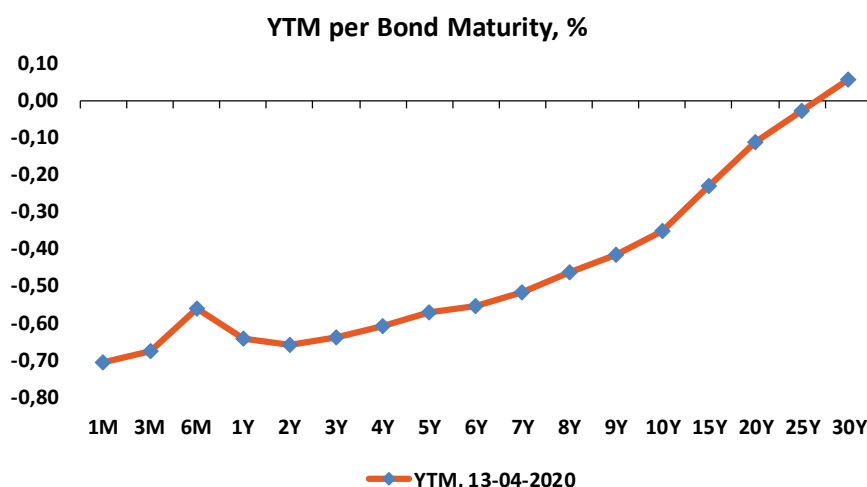


## Market Information

Maturity	Bonds
1M	BUBILL 0 06/10/20 Corp
3M	BUBILL 0 08/05/20 Corp
6M	BUBILL 0 10/07/20 Corp
1Y	BKO 0 03/12/21 Corp
2Y	BKO 0 03/11/22 Corp
3Y	OBL 0 04/14/23 #177 Corp
4Y	OBL 0 04/05/24 #179 Corp
5Y	OBL 0 04/11/25 #181 Corp
6Y	DBR 0 ½ 02/15/26 Corp
7Y	DBR 0 ½ 02/15/27 Corp
8Y	DBR 0 ½ 02/15/28 Corp
9Y	DBR 0 ½ 02/15/29 Corp
10Y	DBR 0 02/15/30 Corp
15Y	DBR 4 ¾ 07/04/34 Corp
20Y	DBR 4 ¾ 07/04/39 Corp
25Y	DBR 2 ½ 07/04/44 Corp
30Y	DBR 0 08/15/50 Corp

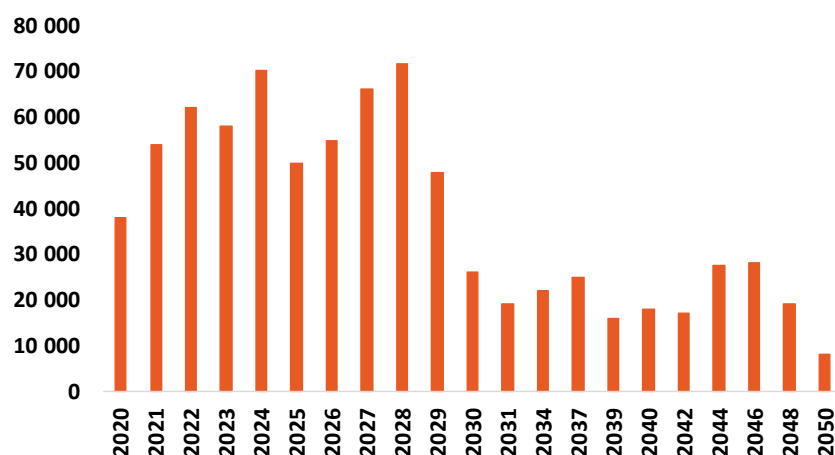
### 1. Public Debt

Below is presented the Yield curve for the German government debt. Each dot corresponds to the Yield to maturity received for the bonds of each different maturity. German debt is perceived as the one of the safest financial assets in the world, therefore, the various interest rates the market is willing to accept to hold its debt is negative throughout all but one maturity, the 30-year bonds. Currently, the bonds with a maturity of 7 or less years are trading at an interest rate that is lower than the ECB's deposit facility rate (currently at -0.5%).



Source: BiG Research

### Debt Repayment Distribution, EUR bn



Source: BiG Research

German debt is spread almost uniformly throughout the next decade, with the largest proportion of its current debt to be repaid in 2028, that is EUR 72 bn, or 9% of the total emitted debt.

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## 2. Stock Market

Dax	
Trading Hours	08:00 - 16:45
Points (13 Apr 2020)	10,565
Market Cap (bn)	1076
Volume (09 Apr 2020) (Mln)	134.5
YTD Return	-20.26%
P/E	18.63
P/Book	1.3
Dividend Yield	3.74%

The German Stock Index (Dax) is composed by 30 companies, with a total capitalization of EUR 1,076 bn.

The Index is currently at 10,565 points, which is well below its late-2019 value of around 13,500 points. As any other stock index, the Dax was not spared from the sell-off on equity that the markets assisted after the coronavirus crisis became a global threat. The Index lost around 34% of its value in a matter of 8 weeks and lately has been recovering, soaring 18.3% in the last 3 weeks. However, the total loss from market high is still at minus 22%.

DAX Companies per sector	Weight	Dividend Yield	P/E
<b>Communication Services</b>	4,75	5,66	15,12
DEUTSCHE TELEKOM AG-REG	4,75	5,66	15,12
<b>Consumer Discretionary</b>	13,38	5,16	11,35
ADIDAS AG	4,80	1,49	23,16
BAYERISCHE MOTOREN WERKE AG	1,96	6,89	6,87
CONTINENTAL AG	0,93	6,50	-
DAIMLER AG-REGISTERED SHARES	2,98	10,89	13,39
VOLKSWAGEN AG-PREF	2,70	3,61	5,00
<b>Consumer Staples</b>	2,73	1,73	19,68
BEIERSDORF AG	1,08	0,77	28,85
HENKEL AG & CO KGAA VORZUG	1,64	2,37	16,27
<b>Financials</b>	15,89	4,35	22,27
ALLIANZ SE-REG	8,18	5,46	8,68
DEUTSCHE BANK AG-REGISTERED	1,51	1,80	-
DEUTSCHE BOERSE AG	2,93	2,04	24,25
MUENCHENER RUECKVER AG-REG	3,26	4,81	10,17
<b>Health Care</b>	11,31	3,52	19,37
BAYER AG-REG	6,38	4,87	23,39
FRESENIUS MEDICAL CARE AG &	1,57	1,85	15,95
FRESENIUS SE & CO KGAA	1,87	2,10	11,23
MERCK KGAA	1,49	1,30	32,32
<b>Industrials</b>	11,67	4,71	11,28
DEUTSCHE LUFTHANSA-REG	0,50	9,01	3,47
DEUTSCHE POST AG-REG	3,00	4,48	12,09
MTU AERO ENGINES AG	0,81	2,15	14,39
SIEMENS AG-REG	7,36	4,79	12,55
<b>Information Technology</b>	15,85	1,29	34,38
INFINEON TECHNOLOGIES AG	2,42	1,66	22,86
SAP SE	11,87	1,36	39,43
WIRECARD AG	1,56	0,18	28,82
<b>Materials</b>	17,58	3,66	20,06
BASF SE	5,14	6,82	17,20
COVESTRO AG	0,57	8,02	9,92
HEIDELBERGCEMENT AG	0,77	4,78	7,75
LINDE PLC	11,11	1,89	25,78
<b>Real Estate</b>	2,76	3,17	20,57
VONOVIA SE	2,76	3,17	20,57
<b>Utilities</b>	4,08	3,92	-
E.ON SE	2,32	4,82	35,97
RWE AG	1,76	2,73	-



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- There isn't a predefined coverage policy in regards to the selection of stocks that are subject to investment recommendations.
- Clarification of the qualitative terms implied in the recommendations:
  - Buy, expected absolute return above 15%;
  - Accumulate, expected absolute return between +5% and +15%;
  - Hold/Neutral, expected absolute return between -5% and +5%;
  - Reduce, expected absolute return between -5% and -15%;
  - Sell, expected absolute return below -15%;The investment framework aforementioned is merely indicative and not globally strict.
- Unless otherwise specified, the price-targets of the investment recommendations issued by BiG's Research Team are valid for 12 months.
- The update of the investment recommendations models and respective price-targets will occur, usually, in a period of 6 to 12 months.
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