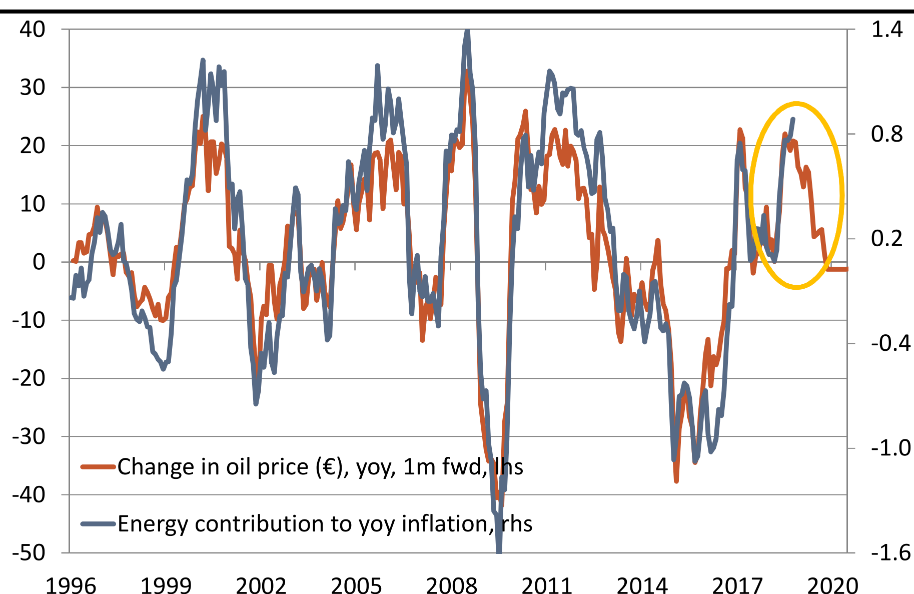
Economics

BERENBERG
PARTNERSHIP SINCE 1590

Eurozone progress report: coping with the risks

- **Trade tensions, oil, Italy, Brexit and Turkey:** Since March 2018, a gush of headwinds has slowed down Eurozone growth from a pace well above trend to an annualised rate of around 1% now. Most survey data point to a further loss of momentum in late 2018 as the mostly external shocks are gradually seeping into more restrained domestic spending.
- **In this report, we look at the key risks:** On balance, we note some signs of hope on key issues that will shape the growth outlook for 2019. Chances are that, after some further weakening of data near-term, confidence surveys and demand will rebound over the course of next year. This should propel economic growth slightly above the annualised 1.5% trend rate again from Q2 2019 onwards.
- **Oil – the worst should be over soon:** The surge in oil prices has turned into the single biggest factor restraining the gains in real domestic demand. If oil prices stabilise, the drag will gradually fade over the course of next year (see Chart 1).
- **A potential Italian debt crisis** remains the most serious risk facing the Eurozone. The risk may materialise in 2019, but it seems more likely that Italy will continue to muddle through noisily until the next recession – due perhaps in 2021 – reveals the underlying weaknesses of the Italian economy.
- **A no-deal hard Brexit** would be a major shock for the Eurozone. Amid all the noise, the risk of such a dismal outcome, which we put at 20%, seems to be receding.
- **Turkey will be less of a drag in 2019:** A fall in exports to Turkey of up to 25% could subtract almost 0.2ppt from the Eurozone's annual growth rate in late 2018. However, once Turkey has hit bottom, probably in early 2019, this drag should fade.
- **China** has the tools to re-stimulate domestic demand if, when, and to the extent that its political leaders deem desirable. We look for exports to China to recover over the course of 2019 after some further weakness in late 2018 and early 2019.
- The risk of an escalating **US-Chinese trade war** remains a wild card. For our forecasts, we assume that the US and China will start serious negotiations and freeze their conflict no later than spring 2019.

Chart 1: Oil price impact on headline inflation – expect the shock to fade soon



Year-over-year change in price for barrel Brent crude, in €, adjusted for change in headline consumer prices (base year 2015); and energy contribution to Eurozone headline inflation, in ppt; oil price projection for November 2018 onwards based on constant oil prices at 7 November 2018 level. Sources: Haver, Eurostat, Berenberg calculations

Key macro reports

Euro crisis: The role of the ECB
29 July 2011

Saving the euro: the case for an ECB yield cap
26 June 2012

The lessons of the crisis: what Europe needs
27 June 2014

Brexit: assessing the domestic policy options
2 November 2016

After Trump: notes on the perils of populism
14 November 2016

Reforming Europe: which ideas make sense?
19 June 2017

The Fed and the shortfall of inflation
15 September 2017

Notes on the inflation puzzle
5 October 2017

Beyond inflation: spotting the signs of excess
3 November 2017

2017 Euro Plus Monitor: Into a higher gear
30 November 2017

Brexit scenarios: now for the hard part
15 December 2017

Can productivity growth keep inflation at bay?
5 February 2018

Global update: Narrowing the transatlantic gap
3 July 2018

10 years after: 10 lessons from the financial crisis
11 September 2018

13 November 2018

Holger Schmieding
Chief Economist
+44 20 3207 7889
holger.schmieding@berenberg.com

Assessing the key risks

Oil: the worst should be over soon

Drag from oil prices on real demand growth should fade as prices stabilise

The surge in oil prices has turned into the single biggest factor restraining the gains in real domestic demand this year. In October, energy prices added 0.9ppt to Eurozone headline inflation. Excluding the energy component, inflation would have stood at a mere 1.3% instead of 2.2% yoy. At €70 per barrel Brent crude, the oil price is €15 higher than we had expected at the start of the year. If the oil price stabilises, the drag should gradually fade over the course of next year as consumers adjust to the new level of energy costs. Due to base effects, the contribution of energy to headline inflation could fall substantially from December 2018 onwards, with particular strong dips in December or January and in May or June 2019. The recent small correction in the oil price bodes well for our assumption that oil will not become much more expensive again next year. If the oil price declines instead, which we consider possible but do not assume for our economic baseline scenario, real consumer spending in the Eurozone could surprise a little to the upside next year.

Italy: a big risk that will probably not materialise (yet)

Italy is the most serious risk facing the Eurozone

A potential Italian debt crisis remains the most serious risk facing the Eurozone. So far, however, this risk has not materialised in a major way. Reform reversals, a turn towards irresponsible fiscal policies and the wider BTP-Bund spread probably contributed slightly to Italy's unexpectedly weak economic performance in Q3, when GDP stagnated after a 0.2% qoq gain in Q2. However, the slowdown in growth is not more pronounced for Italy than for the Eurozone as a whole. From a lower starting level, Italy's economic sentiment as compiled by the European Commission has receded roughly in line with the concurrent drop in the Eurozone as a whole (see Chart 2). Beyond a modest divergence between tightening bank lending standards in Italy and still-easing bank lending standards in the remainder of the Eurozone, there is no clear evidence yet that Italy is succumbing to a major crisis already. More importantly, we find no sign that the Italian risk is already weighing significantly on the economic performance of the Eurozone outside Italy.

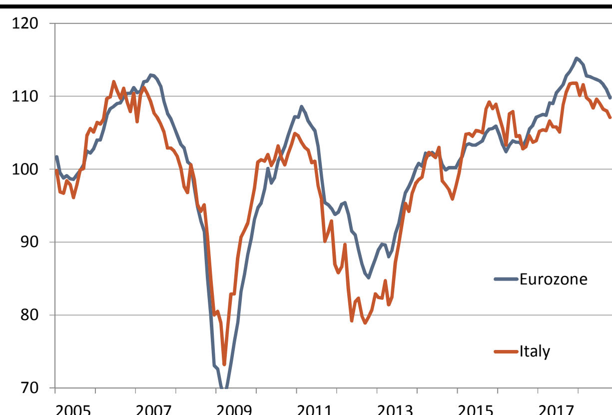
For now, muddling through, with or without a small-scale crisis in the near term

Looking ahead, two major scenarios look plausible for late 2018 and 2019.

1) As the noisy clash between Italy and the EU escalates and Italian banks feel the pain from a rising spread, a modest credit crunch, higher financing costs and the risk of further rating agency downgrades towards the dividing line between investment grade and junk (see Chart 3) will force the Italian government to finally soften its fiscal plans somewhat. A small-scale crisis within the next three months will be followed by muddling through. This is our base case.

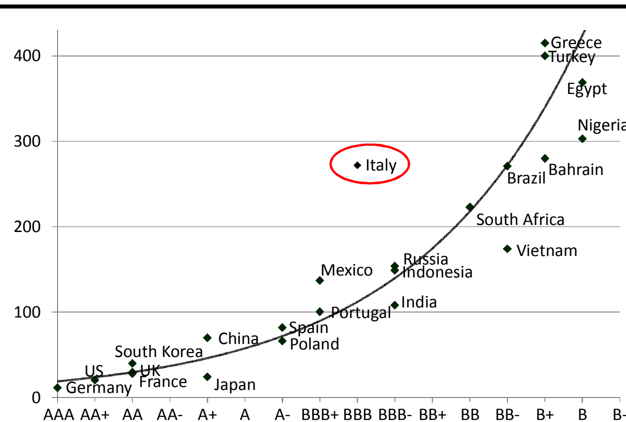
2) Italy continues to muddle through without a small-scale crisis in the near term. This looks possible but slightly less plausible than the first scenario.

Chart 2: Italy lagging behind



Economic sentiment, Eurozone and Italy. 100= long-term average. Source: European Commission

Chart 3: The odd one out – CDS levels versus S&P's credit rating



5-year credit default swaps, in bp, as of 25 October 2018 and S&P credit rating for Italian sovereign bonds. Source: Bloomberg, S&P

In both cases, the damage to the Eurozone beyond Italy would remain very small, except for some short-term hit to sentiment in the case of a temporary Italian mini-crisis (scenario one). Of course, if the tail risk of a genuine Italian debt crisis coupled with a serious Italexit discussion materialised, the damage to the Eurozone would be substantial. We cannot rule out this risk for 2019. However, we do not expect this to happen while the external environment for Italy remains largely favourable, as we project for 2019. With a current account surplus of an estimated 2.7% of GDP for 2018, Italy can probably get away with some fiscal nonsense for now. Longer-term, the damage from reform reversals will add up, though. We think there is a high probability that Italy will eventually have to face such a reckoning once the next recession exposes the country's underlying weaknesses, perhaps in 2021.

Genuine Italian debt crisis unlikely in 2019, but rather during next recession

Brexit: heading for a deal

Like a hypothetical Italian debt crisis, a no-deal hard Brexit would be a major shock for the Eurozone. It would be potent enough to cause an economic stagnation in the region for at least two quarters. Amid all the noise, the risk of such a dismal outcome, which we put at 20%, seems to be receding somewhat. Continuing a trend visible over the last 18 months, the UK position continues to become more realistic as to what it can and cannot achieve in negotiations with the much bigger EU27. We think there is a 60% chance that the EU27 and the UK will strike a semi-soft Brexit deal soon that will be passed by the UK parliament in December (or January) and a further 20% probability that the UK will accept such a deal, or an even softer version of Brexit, after some initial political turmoil just in time for Brexit day on 29 March 2019.

80% chance that the UK will avoid a damaging no-deal hard Brexit

Brexit uncertainty has retarded business investment in the UK significantly in 2018, for instance with qoq drops of 0.7% qoq in Q2 and 1.2% in Q3 2018. As a result, UK growth has been more subdued than it would have been otherwise. With the likely fading of Brexit uncertainty, UK growth can rebound to around 2% in 2019 after an estimated 1.3% in 2018 (see Chart 4). While Brexit uncertainty and softer UK demand has probably been a small negative for the Eurozone in the last two years, an end of this uncertainty followed by stronger UK demand could be a small positive for the Eurozone next year.

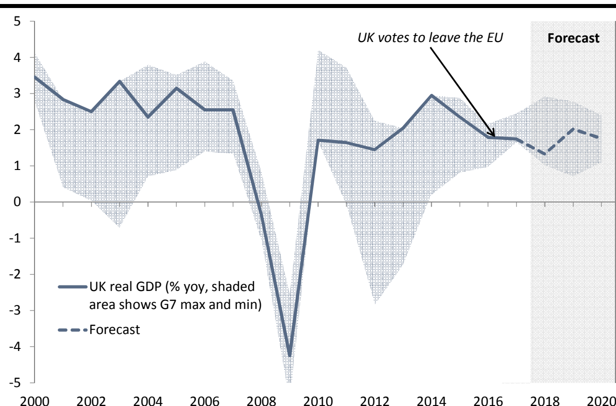
End of Brexit uncertainty could be a small positive for the Eurozone next year

Turkey: likely to bottom out in early 2019

Turkey is no more than a medium-sized emerging market with limited relevance for the world economy. For the Eurozone, however, it is a close neighbour. In 2017, the Eurozone sold 1.6% of its exports to Turkey. The latest available data show a 33% yoy plunge in German exports in September and a 17.4% drop in Eurozone exports to Turkey for August 2018. For Q4, the rates of export decline could easily be 35% for Germany and 25% for the Eurozone as a whole. This would subtract 0.25ppt from the yoy rate of German and 0.18ppt from Eurozone growth – Chart 5.

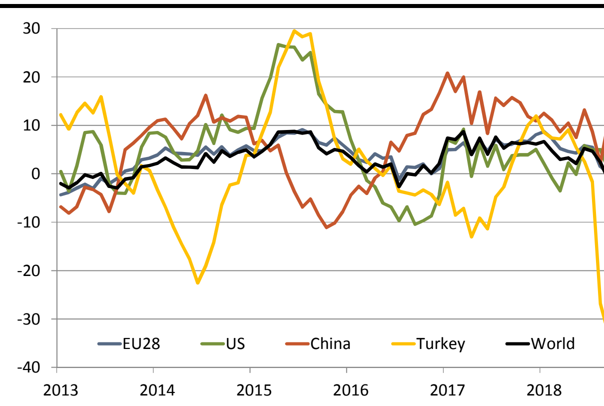
Turkey is a close neighbour

Chart 4: Expect UK growth to rebound if a hard Brexit is avoided



Annual data. Berenberg forecasts used for USA, Japan, UK, Germany, France and Italy. Bloomberg consensus (5/11/18) taken for Canada in 2018 (2.1%), 2019 (2.1%) and 2020 (1.7%). Sources: ONS, Bureau of Economic Analysis, Statistics Canada, Eurostat, Cabinet Office of Japan, Berenberg calculations

Chart 5: Sources of pain – German goods exports by key regions



Monthly data. Yoy change in %. 3-month average. Last value is yoy data for month of September 2018. Source: Destatis

Fortunately, the outlook for Turkey has become less dismal following its belated rate hike on 13 September and attempts to mend relations with the US and the EU. Despite the unsavoury antics of its maverick president, Turkey is not engulfed by major political chaos. The country looks set to suffer a standard emerging market recession to correct prior credit and current account excesses followed by a rebound thereafter. Once Eurozone exports to Turkey have plunged by, say, 25% yoy in late 2018 and early 2019, they are unlikely to fall again dramatically thereafter. If Turkey hits bottom early next year, as we expect, Turkey will cease to be a noticeable drag on Eurozone growth over the course of 2019. The turnaround in Turkey's current account to a surplus of $0.8bn in September 2018 after average monthly deficits of $5bn in the first half of the year shows that the painful adjustment in Turkey is under way. The recent stability in the Turkish exchange rate could be a first harbinger of a post-recession stabilisation or even upturn to come over the course of 2019.

If Turkey hits bottom early next year, it will cease to be a drag on Eurozone growth

By and large, the same pattern should hold for some other vulnerable emerging markets such as Brazil and Argentina. With the US Fed likely to switch into wait-and-see mode in mid-2019 (after four 25bp rate hikes in 2018, we look for two further such increases in H1 2019 and with no change in the funds rate until at least the end of 2020), the pressure on emerging markets with significant dollar debt should ease somewhat next year.

Other emerging markets may benefit from the Fed slowing its rate-hiking pace

China has the tools to stimulate demand if need be

Parties cannot last forever. In 2017, a 17.3% surge in goods exports to China had contributed 0.2ppt to the Eurozone's stellar 2.5% growth rate. During 2018, however, some controlled deleveraging in China and fall-out from the US-Chinese trade war have exacerbated a slowdown in Chinese demand growth that may well be more pronounced than the country admits in its official GDP statistics. Annual growth in Eurozone exports to China has decelerated to a mere 1.7% yoy for the July/August 2018 average. It may even turn negative for a while once the recent Chinese rush to beat incoming US tariffs by stepping up exports to the US (and raising imports of components for these exports) beforehand has run its course.

Slowdown in Chinese growth dampens on Eurozone exports

In early 2019, a Chinese weakness may continue to weigh on Eurozone growth. However, with its high savings rate, sufficient controls to prevent massive capital flight and subdued inflation, China has the tools to re-stimulate domestic demand if, when, and to the extent that its political leaders deem desirable. Following cuts in reserve requirements and an announced tax cut on cars, we look for China to add one modest stimulus to the next in coming months until it works, that is until growth stops decelerating for a while. As a result, we expect growth in exports to China to rebound over the course of next year.

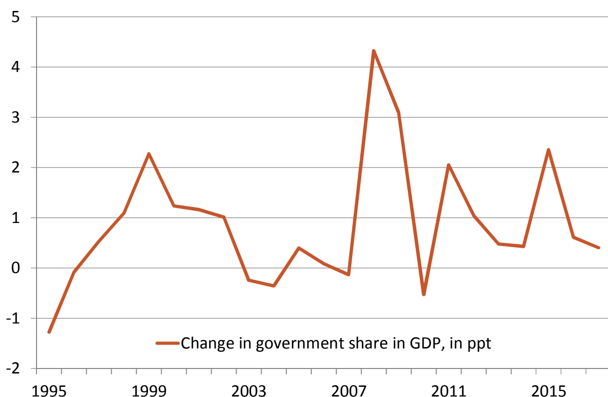
China has tools to re-stimulate domestic demand

Trade war: the wild card

Since March 2018, European companies have cited trade tensions stoked by US President Donald Trump as one major factor – and often as the single most important factor – that is clouding the global outlook. In March 2018, right after Trump had announced his intention to impose steel and aluminium tariffs, the economic sentiment index for the Eurozone suffered its worst monthly decline since August 2014.

Trade tensions stoked by President Trump weigh on Eurozone sentiment

Chart 6: China steers its business cycle very actively



Change in government share in GDP, in ppt. Source: IMF

Chart 7: Key US measures against China and the EU

		Imposed				Threatened	Halted
		Steel (25% tariff) / aluminium (10%)		Aerospace, ICT, robotics, machinery (25%)	as of 24 Sept (10%; rising to 25% in 2019)	tbd (if China retaliates, 10%)	Cars / car parts (20%)
		China	EU	China	China	China	EU
US imports	bn US dollar	2.9	7.7	50	200	267	62.5
	% of US imports from China/EU	0.6	1.2	9.5	38.2	51.0	9.9
	% of US GDP	0.0	0.0	0.3	1.0	1.4	0.3
Potential direct damage	bn US dollar	0.5	1.8	12.5	20	27	12
	% of US GDP	0.00	0.01	0.06	0.10	0.14	0.06

Based on 2017 annual data, table gives hypothetical tariff revenues at unchanged import values. Source: BEA, PIIE, USTR

The direct damage is very limited…

The direct damage to the Eurozone is very limited so far – Chart 7. Thanks to the US-EU trade armistice brokered by EU Commission President Jean-Claude Juncker with Trump in July, few Eurozone exports to the US are affected by new import duties.

…but the indirect damage is hurting

However, the ongoing trade war between the US and China is hurting the EU in three ways.

1) It contributes to softer growth in China, a major market for EU exports.

2) The uncertainty about future tariffs makes companies reluctant to invest in their current cross-border supply chains as they do not know how tariffs will affect these supply chains in the future. Less dynamic business investment reduces the demand for machine tools for which the Eurozone is a top global producer and exporter.

3) Fears that Trump is undermining the rules of the global trading system exacerbate the hesitancy to invest in export-oriented activities.

No visible progress so far, but pressure on both sides will likely rise over time…

So far, the US and China have made no visible progress in their trade disputes. At this stage, we do not hazard a guess as to whether Trump and China's leader Xi Jinping will move closer to a truce if not yet to a deal upon a meeting at or around the time of the G20 summit in Argentina (30 November-1 December 2018). Regardless of the outcome of this meeting, the pressure on both sides to start serious negotiations instead of hurling one punitive tariff after the other will likely rise over time. China with its focus on its long-term development rather than short-term political gains seems ready to make concessions as long as it manages to save face in the process. In the US, where the fiscal stimulus is currently obscuring the damage from the trade war with China, the costs of the conflict will likely become more obvious over time as the fiscal stimulus fades over the course of next year.

…and will give way to serious negotiations at some point in H1 2019

For our economic forecasts, we thus assume that the US-Chinese trade war will give way to serious negotiations at some point in the first half of next year. Unfortunately, the risk that the trade war continues to escalate instead remains potent. As a rough guess, an on-going US-Chinese trade war could depress the Eurozone growth rate by 0.2-0.3ppt in 2019. On its own, it would not make the difference between a rebound in growth and continued softness. Still, it would be a significant factor.

BERENBERG
PARTNERSHIP SINCE 1590

Eurozone: encouraging fundamentals

While the Eurozone faces a cocktail of serious risks, domestic fundamentals remain mostly encouraging.

Most Eurozone countries have improved on the supply side

- Following the German reforms of 2004, a number of smaller Eurozone countries have also strengthened their supply side through pro-growth structural reforms in the wake of the 2011/2012 euro crisis. Big France is finally following suit under Emmanuel Macron. These reforms are turning major parts of the Eurozone into better places to invest and create jobs.

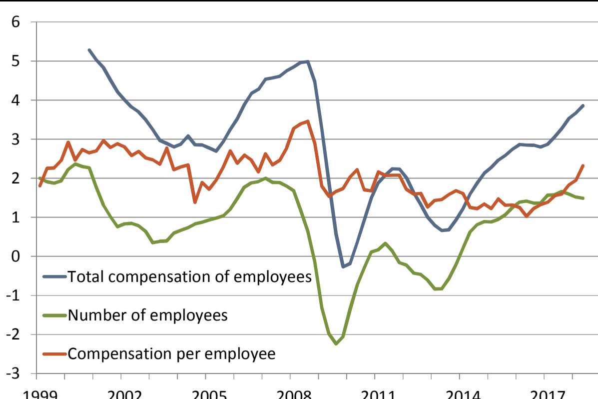
Healthy labour market underpins incomes gains

- A solid rise in Eurozone employment (+1.5% yoy in H1 2018 after 1.6% in 2017) and a modest pick-up in wage inflation (compensation per employee rose 2.1% yoy in H1 2018 after 1.6% in 2017) can underpin further gains in disposable incomes ahead (see Chart 8).

Austerity is over, monetary policy supportive and euro competitive

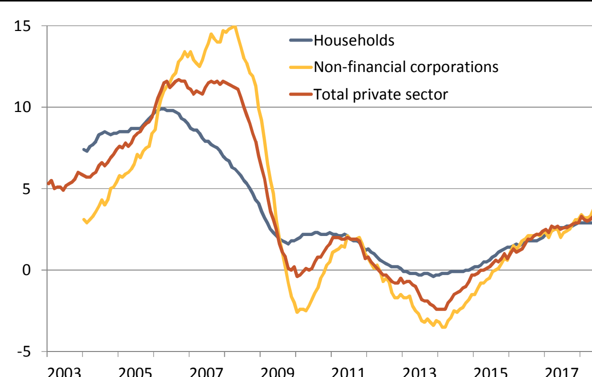
- Fiscal austerity ended three years ago. Monetary policy remains highly supportive of demand growth and the real effective exchange rate of the euro versus 38 key trading partners (up 5% in Q3 2018 versus the 2017 average but still in line with the 10-year average) poses only a modest obstacle to export growth.

Chart 8: Healthy gains in Eurozone employment and wages



Quarterly data, yoy change in %. Sources: Eurostat, ECB

Chart 9: Monetary policy at work – the credit cycle has turned up



Bank loans to the non-bank private sector, adjusted for loan sales, securitisations and notional cash pooling, monthly data, yoy change in %.. Source: ECB

More business investment

- Labour shortages in some countries such as Germany (and reportedly even in some sectors of the French labour market), a still-high rate of capacity utilisation in industry (83.9% in Q4 after a 84.5% peak in Q1) and a sizeable backlog of industrial orders (enough to cover 3.8 months of production in Q4 2018, down only slightly from the record 4.1 months in H2 2017) all point to a need for more business investment.

Healthy loan growth

- The rise of bank lending to non-financial corporations to a nine-year record of 4.1% yoy growth in September suggests that companies are gearing up for some extra investment spending.

Eurozone growth to rebound over the course of 2019

Taken together, a fading of some political risks, stronger gains in real disposable incomes at stable rather than rising oil prices and a lesser drag from net exports should allow Eurozone GDP growth to rebound to a pace of roughly 1.7% annualised over the course of 2019 after annualised gains of around 1% in H2 2018.

BERENBERG
PARTNERSHIP SINCE 1590

Table 1: Eurozone economic forecasts

		2017	2018	2019	2020	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19	3Q19	4Q19	1Q20	2Q20	3Q20	4Q20
GDP	% y/y	**2.5**	**1.9**	**1.4**	**1.7**	2.4	2.2	1.7	1.3	1.2	1.2	1.5	1.7	1.7	1.7	1.7	1.7
	% q/q					0.4	0.4	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	%q/q ann.					1.6	1.8	0.6	1.0	1.4	1.7	1.8	1.8	1.7	1.7	1.7	1.7
Private Consumption	% y/y	**1.7**	**1.4**	**1.2**	**1.6**	1.7	1.4	1.2	1.2	1.0	1.1	1.3	1.4	1.5	1.5	1.6	1.6
	% q/q					0.5	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Government Consumption	% y/y	**1.2**	**1.0**	**1.4**	**1.5**	1.1	1.1	0.9	1.1	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.6
	% q/q					0.1	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Investment	% y/y	**2.9**	**3.2**	**3.0**	**2.9**	3.5	2.8	3.8	2.9	3.5	2.8	2.9	2.9	2.9	2.9	2.9	2.9
	% q/q					0.1	1.4	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Final Domestic Demand [1]	% y/y	**1.8**	**1.6**	**1.6**	**1.8**	1.9	1.6	1.6	1.5	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.8
	% q/q					0.3	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Net Exports [1]	% y/y	**0.8**	**0.2**	**-0.2**	**0.0**	0.6	0.6	0.1	-0.4	-0.3	-0.3	-0.1	0.0	0.0	0.0	-0.1	-0.1
	% q/q					-0.2	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Stockbuilding [1]	% y/y	**-0.1**	**0.0**	**0.0**	**0.0**	-0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	% q/q					0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current Account Balance	EUR bn	**353**	**385**	**379**	**373**	106	94	86	100	106	94	83	97	106	94	80	94
	% of GDP	**3.2**	**3.3**	**3.2**	**3.0**												
Industrial Production [2]	% y/y	**3.0**	**1.5**	**1.3**	**1.5**	3.2	2.3	0.7	-0.1	1.0	1.2	1.5	1.4	1.4	1.4	1.5	1.5
	% q/q					-0.7	0.1	0.0	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Unemployment Rate [2]	%	**9.1**	**8.2**	**7.7**	**7.3**	8.5	8.3	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2
CPI [2]	% y/y	**1.5**	**1.8**	**1.7**	**1.8**	1.3	1.7	2.1	2.1	1.9	1.7	1.6	1.5	1.7	1.7	1.8	1.8
General Govt. Balance	% of GDP	**-0.9**	**-0.7**	**-0.8**	**-0.7**												
General Govt. Debt	% of GDP	**86.8**	**84.5**	**82.7**	**80.6**												
ECB main refinancing rate [3]	%	**0.00**	**0.00**	**0.25**	**0.75**	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.25	0.25	0.50	0.50	0.75

[1] Contribution to GDP growth [2] Period averages [3] End of period

BERENBERG
PARTNERSHIP SINCE 1590

Disclaimer

This document was compiled by the above mentioned authors of the economics department of Joh. Berenberg, Gossler & Co. KG (hereinafter referred to as "the Bank"). The Bank has made any effort to carefully research and process all information. The information has been obtained from sources which we believe to be reliable such as, for example, Thomson Reuters, Bloomberg and the relevant specialised press. However, we do not assume liability for the correctness and completeness of all information given. The provided information has not been checked by a third party, especially an independent auditing firm. We explicitly point to the stated date of preparation. The information given can become incorrect due to passage of time and/or as a result of legal, political, economic or other changes. We do not assume responsibility to indicate such changes and/or to publish an updated document. The forecasts contained in this document or other statements on rates of return, capital gains or other accession are the personal opinion of the author and we do not assume liability for the realisation of these.

This document is only for information purposes. It does not constitute a financial analysis within the meaning of § 34b or § 31 Subs. 2 of the German Securities Trading Act (Wertpapierhandelsgesetz), no investment advice or recommendation to buy financial instruments. It does not replace consulting regarding legal, tax or financial matters.

Remarks regarding foreign investors

The preparation of this document is subject to regulation by German law. The distribution of this document in other jurisdictions may be restricted by law, and persons, into whose possession this document comes, should inform themselves about, and observe, any such restrictions.

United Kingdom

This document is meant exclusively for institutional investors and market professionals, but not for private customers. It is not for distribution to or the use of private investors or private customers.

United States of America

This document has been prepared exclusively by Joh. Berenberg, Gossler & Co. KG. Although Berenberg Capital Markets LLC, an affiliate of the Bank and registered US broker-dealer, distributes this document to certain customers. This document does not constitute research of Berenberg Capital Markets LLC. In addition, this document is meant exclusively for institutional investors and market professionals, but not for private customers. It is not for distribution to or the use of private investors or private customers.

This document is classified as objective for the purposes of FINRA rules. Please contact Berenberg Capital Markets LLC (+1 617.292.8200), if you require additional information.

Copyright

The Bank reserves all the rights in this document. No part of the document or its content may be rewritten, copied, photocopied or duplicated in any form by any means or redistributed without the Bank's prior written consent.

© 2018 Joh. Berenberg, Gossler & Co. KG

Economics

BERENBERG
PARTNERSHIP SINCE 1590

JOH. BERENBERG, GOSSLER & CO. KG

Internet www.berenberg.com

E-mail: firstname.lastname@berenberg.com

EQUITY RESEARCH

AEROSPACE & DEFENCE
- Ryan Booker +44 20 3753 3074
- Andrew Gollan +44 20 3207 7891
- Ross Law +44 20 3465 2692

AUTOMOTIVES
- Cristian Dirpes +44 20 3465 2721
- Alexander Haissl +44 20 3465 2749
- Viktoria Oushatova +44 20 3207 7890
- Fei Teng +44 20 3753 3049

BANKS
- Adam Barrass +44 20 3207 7923
- Stephanie Carter +44 20 3207 3106
- Michael Christodoulou +44 20 3207 7920
- Andrew Lowe +44 20 3465 2743
- Alex Medhurst +44 20 3753 3047
- Eoin Mullany +44 20 3207 7854
- Peter Richardson +44 20 3465 2681

BEVERAGES
- Javier Gonzalez Lastra +44 20 3465 2719
- Matt Reid +44 20 3753 3075

BUSINESS SERVICES, LEISURE & TRANSPORT
- Zaim Beekawa +44 20 3207 7855
- Tom Burlton +44 20 3207 7852
- Roberta Ciaccia +44 20 3207 7805
- Najet El Kassir +44 20 3207 7836
- William Fitzalan Howard +44 20 3465 2640
- Stuart Gordon +44 20 3207 7858
- Annabel Hay-Jahans +44 20 3465 2720
- Joel Spungin +44 20 3207 7867
- Adrian Yanoshik +44 20 3753 3073

CAPITAL GOODS
- Nicholas Housden +44 20 3753 3050
- Sebastian Kuenne +44 20 3207 7856
- Philippe Lorrain +44 20 3207 7823
- Rizk Maidi +44 20 3207 7806
- Jaroslaw Pominkiewicz +44 20 3753 3035
- Simon Toennessen +44 20 3207 7819
- Ethan Zhang +44 20 3465 2634

CHEMICALS
- Sebastian Bray +44 20 3753 3011
- Anthony Manning +44 20 3753 3092
- Rikin Patel +44 20 3753 3080

DIVERSIFIED FINANCIALS
- Chris Turner +44 20 3753 3019

FOOD MANUFACTURING AND H&PC
- Rosie Edwards +44 20 3207 7880
- Fintan Ryan +44 20 3465 2748
- James Targett +44 20 3207 7873

FOOD RETAIL
- Dusan Milosavljevic +44 20 3753 3123

GENERAL MID CAP - DACH
- Saravana Bala +44 20 3753 3043
- Martin Comtesse +44 20 3207 7878
- Charlotte Friedrichs +44 20 3753 3077
- Gustav Fröberg +44 20 3465 2655
- James Letten +44 20 3753 3176
- Alexander O'Donoghue +44 20 3207 7804
- Gerhard Orgonas +44 20 3465 2635
- Henrik Paganetty +44 20 3453 3140
- Benjamin Pfannes-Varrow +44 20 3465 2620

GENERAL MID CAP - EU core
- Beatrice Allen +44 20 3465 2662
- Christoph Greulich +44 20 3753 3119
- Andreas Markou +44 20 3753 3022
- Anna Patrice +44 20 3207 7863
- Trion Reid +44 20 3753 3113

GENERAL MID CAP - UK
- Joseph Barron +44 20 3207 7828
- Calum Battersby +44 20 3753 3118
- Robert Chantry +44 20 3207 7861
- Sam Cullen +44 20 3753 3183
- Ned Hammond +44 20 3753 3017
- Omar Ismail +44 20 3753 3102
- Anthony Plom +44 20 3207 7908
- Edward James +44 20 3207 7811
- Lush Mahendrarajah +44 20 3207 7896
- Benjamin May +44 20 3465 2667

GENERAL MID CAP - UK (cont'd)
- Eoghan Reid +44 20 3753 3055
- Owen Shirley +44 20 3465 2731
- Donald Tait +44 20 3753 3031
- Sean Thapar +44 20 3465 2657

GENERAL RETAIL
- Thomas Davies +44 20 3753 3104
- Michelle Wilson +44 20 3465 2663

HEALTHCARE
- Scott Bardo +44 20 3207 7869
- Alistair Campbell +44 20 3207 7876
- Klara Fernandes +44 20 3465 2718
- Tom Jones +44 20 3207 7877
- Samantha Osborne +44 20 3207 7882
- Michael Ruzic-Gauthier +44 20 3753 3128
- Laura Sutcliffe +44 20 3465 2669
- Charles Weston +44 20 3465 2746

INSURANCE
- Charles Bendit +44 20 3465 2729
- Trevor Moss +44 20 3207 7893
- Emanuele Musio +44 20 3207 7916
- Iain Pearce +44 20 3465 2665
- Philip Ross +44 20 3465 2726

LUXURY GOODS
- Mariana Horn +44 20 3753 3044
- Lauren Molyneux +44 20 3207 7892
- Zuzanna Pusz +44 20 3207 7812

MEDIA
- Robert Berg +44 20 3465 2680
- Keisi Hysa +44 20 3207 7817
- Laura Janssens +44 20 3465 2639
- Alastair Reid +44 20 3207 7841
- Sarah Simon +44 20 3207 7830

METALS & MINING
- Charlie Clark +44 20 3207 3133
- Richard Hatch +44 20 3753 3070
- Laurent Kimman +44 20 3465 2675
- Michael Stoner +44 20 3465 2643

OIL & GAS
- Henry Tarr +44 20 3207 7827
- John Gleeson +44 20 3465 2716
- Ilkin Karimli +44 20 3465 2684

REAL ESTATE
- Kai Klose +44 20 3207 7888

TECHNOLOGY
- Josep Bori +44 20 3753 3058
- Georgios Kertsos +44 20 3465 2715
- Tej Sthankiya +44 20 3753 3099
- Tammy Qiu +44 20 3465 2673

TELECOMMUNICATIONS
- David Burns +44 20 3753 3059
- Nicolas Didio +44 20 3753 3091
- Usman Ghazi +44 20 3207 7824
- Laura Janssens +44 20 3465 2639
- Carl Murdock-Smith +44 20 3207 7918

THEMATIC RESEARCH
- Nick Anderson +44 20 3207 7838
- Oyvind Bjerke +44 20 3753 3082
- Steven Bowen +44 20 3753 3057
- Asad Farid +44 20 3207 7932
- Robert Lamb +44 20 3465 2623
- Paul Marsch +44 20 3207 7857
- Saliha Shariff +44 20 3753 3097

TOBACCO
- Jonathan Leinster +44 20 3465 2645

UTILITIES
- Oliver Brown +44 20 3207 7922
- Andrew Fisher +44 20 3207 7937
- Lawson Steele +44 20 3207 7887

ECONOMICS
- Florian Hense +44 20 3207 7859
- Carsten Hesse +44 20 3753 3001
- Kallum Pickering +44 20 3465 2672
- Holger Schmieding +44 20 3207 7889

EQUITY SALES

SPECIALIST SALES

AEROSPACE & DEFENCE & CAPITAL GOODS
- Cara Luciano +44 20 3753 3146

AUTOS & TECHNOLOGY
- Edward Wales +44 20 3207 7815

BANKS, DIVERSIFIED FINANCIALS & INSURANCE
- Calum Marris +44 20 3753 3040

BUSINESS SERVICES, LEISURE & TRANSPORT
- Rebecca Langley +44 20 3207 7930

CONSUMER DISCRETIONARY
- Victoria Maigrot +44 20 3753 3010

CONSUMER STAPLES
- Ramnique Sroa +44 20 3753 3064

MEDIA & TELECOMS
- Jonathan Smith +44 20 3207 7842

HEALTHCARE
- David Hogg +44 20 3465 2628

THEMATICS
- Chris Armstrong +44 20 3207 7809

SALES

BENELUX
- Miel Bakker +44 20 3207 7808
- Bram van Hijfte +44 20 3753 3000

FRANCE
- Alexandre Chevassus +33 1 5844 9512

FRANCE (cont'd)
- Dalila Farigoule +33 1 5844 9510
- Kevin Nor +33 1 5844 9505
- Guillaume Viret +331 5844 9507

SCANDINAVIA
- Mikko Vanhala +44 20 3207 7818
- Marco Weiss +49 40 350 60 719

UK
- James Burt +44 20 3207 7807
- Fabian De Smet +44 20 3207 7810
- Marta De-Sousa Fialho +44 20 3753 3098
- Jules Emmet +44 20 3753 3260
- Katie Ferry +44 20 3753 3041
- Robert Floyd +44 20 3753 3018
- David Franklin +44 20 3465 2747
- Karl Hancock +44 20 3207 7803
- Sean Heath +44 20 3465 2742
- Stuart Holt +44 20 3465 2646
- James Hunt +44 20 3753 3007
- James McRae +44 20 3753 3036
- David Mortlock +44 20 3207 7850
- Eleni Papoula +44 20 3465 2741
- Bhavin Patel +44 20 3207 7926
- Kushal Patel +44 20 3753 3038
- Richard Payman +44 20 3207 7825

UK (cont'd)
- Christopher Pyle +44 20 3753 3076
- Adam Robertson +44 20 3753 3095
- Joanna Sanders +44 20 3207 7925
- Mark Sheridan +44 20 3207 7802
- George Smibert +44 20 3207 7911
- Alexander Wace +44 20 3465 2670
- Paul Walker +44 20 3465 2632

GERMANY
- Michael Brauburger +49 69 91 30 90 741
- Nina Buechs +49 69 91 30 90 735
- André Grosskurth +49 69 91 30 90 734
- Joerg Wenzel +49 69 91 30 90 743

SWITZERLAND, AUSTRIA & ITALY
- Duncan Downes +41 22 317 1062
- Andrea Ferrari +41 44 283 2020
- Gianni Lavigna +41 44 283 2038
- Jamie Nettleton +41 44 283 2026
- Yeannie Rath +41 44 283 2029
- Mirco Tieppo +41 44 293 2024

COO Office
- Greg Swallow +44 20 3207 7833
- Fenella Neill +44 20 3207 7868

CRM
- Laura Cooper +44 20 3753 3065
- Jessica Jarmyn +44 20 3465 2696
- Madeleine Lockwood +44 20 3753 3110
- Vikram Nayar +44 20 3465 2737
- Rita Pilar +44 20 3753 3066

CORPORATE ACCESS
- Lindsay Arnold +44 20 3207 7821
- Maz Gentile +44 20 3465 2668
- Robyn Gowers +44 20 3753 3109
- Dipti Jethwani +44 20 3207 7936
- Ross Mackay +44 20 3207 7866
- Stella Siggins +44 20 3465 2630
- Lucy Stevens +44 20 3753 3068
- Abbie Stewart +44 20 3753 3054

EVENTS
- Charlotte David +44 20 3207 7832
- Suzy Khan +44 20 3207 7915
- Natalie Meech +44 20 3207 7831
- Eleanor Metcalfe +44 20 3207 7834
- Rebecca Mikowski +44 20 3207 7822
- Sarah Weyman +44 20 3207 7801

SALES TRADING

LONDON
- Charles Beddow +44 20 3465 2691
- Mike Berry +44 20 3465 2755
- Joseph Chappell +44 20 3207 7885
- Stewart Cook +44 20 3465 2752
- Mark Edwards +44 20 3753 3004
- Tom Floyd +44 20 3753 3136
- Tristan Hedley +44 20 3753 3006
- Peter King +44 20 3753 3139
- Simon Messman +44 20 3465 2754
- AJ Pulleyn +44 20 3465 2756
- Michael Schumacher +44 20 3753 3006
- Paul Somers +44 20 3465 2753

PARIS
- Vincent Klein +33 1 58 44 95 09
- Antonio Scuotto +33 1 58 44 95 03

EQUITY TRADING

HAMBURG
- David Hohn +49 40 350 60 761
- Gregor Labahn +49 40 350 60 571
- Lennart Pleus +49 40 350 60 596
- Marvin Schweden +49 40 350 60 576
- Omar Sharif +49 40 350 60 563
- Philipp Wiechmann +49 40 350 60 346
- Christoffer Winter +49 40 350 60 559

LONDON
- Christopher Brown +44 20 3753 3085
- Edward Burlison-Rush +44 20 3753 3005
- Richard Kenny +44 20 3753 3083
- Chris McKeand +44 20 3207 7938
- Ben Tappin +44 20 3753 3382

LONDON (cont'd)
- Ross Tobias +44 20 3753 3137
- Robert Towers +44 20 3753 3262

ELECTRONIC TRADING
- Jonas Doehler +44 40 350 60 391
- Matthias Führer +49 40 350 60 597
- Sven Kramer +49 40 350 60 347
- Matthias Schuster +44 40 350 60 463

BERENBERG
PARTNERSHIP SINCE 1590

BERENBERG CAPITAL MARKETS LLC

Member FINRA & SIPC

Internet www.berenberg-us.com

E-mail: firstname.lastname@berenberg-us.com

EQUITY RESEARCH

GENERAL MID CAP - US
Samuel England +1 646 949 9035

HEALTHCARE - MED. TECH/SERVICES
Ravi Misra +1 646 949 9028

HEALTHCARE - SPECIALTY PHARMACEUTICALS
Patrick R. Trucchio +1 646 949 9027

LEISURE
Brennan Matthews +1 646 949 9024

INDUSTRIAL MATERIALS
Paretosh Misra +1 646 949 9031

SHIPPING & TRANSPORTATION
Donald McLee +1 646 949 9026

SOFTWARE & IT SERVICES
Alexander Frankiewicz +1 646 949 9029
Gal Munda +1 646 949 9021

EQUITY SALES

SALES
Albert Aguiar +1 646 949 9218
Enrico DeMatt +1 646 949 9230
Kelleigh Faldi +1 617 292 8288
Ted Franchetti +1 646 949 9231
Shawna Giust +1 646 949 7216
Rich Harb +1 617 292 8228
Zubin Hubner +1 646 949 9202
Michael Kaye +1 646 949 9216
Jessica London +1 646 949 9203
Anthony Masucci +1 646 949 9217
Ryan McDonnell +1 646 949 9214
Emily Mouret +1 415 802 2525
Peter Nichols +1 646 949 9201
Kieran O'Sullivan +1 617 292 8292
Rodrigo Ortigao +1 646 949 9205

CORPORATE ACCESS
Adriane Klein +1 617 292 8202
Olivia Lee +1 646 949 9207
Robert Meyers +1 646 949 9215
Panthea O'Connell +1 646 949 9208

CRM
LaJada Gonzales +1 646 949 9213
Monika Kwok +1 646 949 9212
Stephanie Rieben +1 646 949 9240

EVENTS
Laura Hawes +1 646 949 9209

ECONOMICS

Mickey Levy +1 646 949 9099
Roiana Reid +1 646 949 9098

SALES TRADING

Ronald Cestra +1 646 949 9104
Mark Corcoran +1 646 949 9105
Michael Haughey +1 646 949 9106
Christopher Kanian +1 646 949 9103
Lars Schwartau +1 646 949 9101
Bob Spillane +1 646 949 9102