

## ECONOMIC SITUATION AND STRATEGY

May 17, 2019

### Is the business cycle dead or just asleep?

First-quarter GDP growth turned out better than expected in the United States. It was also quite respectable in Germany despite the doubters and pessimists who had forecast recessionary tendencies or zero growth. It again appears that two relatively weak quarters have not been followed by a third, but rather by a recovery or stabilization. One increasingly gets the impression that a "real" business cycle with upswings and downswings lasting years no longer exists, but only a "sawtooth" pattern of economic activity in which short spells of slightly weaker growth alternate with phases marked by slightly above-average growth. Since even experts often conflate the concepts of "growth" and "business cycle," we briefly explain again here where the difference actually lies. When economists talk about growth, they mean the long-term trend of production potential. In contrast, the business cycle has more to do with how far current value creation deviates from that trend. And the growing suspicion is that such deviations are becoming smaller and smaller.

If this is a systematic trend, not merely a snapshot in time, it will also have structural effects on the market. In particular, there is a huge correlation between stock markets and earnings development, which is hardly surprising since otherwise price-earnings ratios would fluctuate dramatically. However, earnings development is in turn a function of macroeconomic developments. If capacity utilization rises, earnings also rise – the same goes analogously for falling utilization. Moreover, since the utilization rate and hence cyclical development have been persistent (at least in the past), the current cyclical situation definitely has an influence on the trend of fu-

ture earnings. In somewhat simplified terms, the associated pattern has been that whenever the economy has been in recessionary mode, the probability of a relatively long phase of falling earnings has been comparatively high. Correspondingly, the opposite has been the case in boom phases. Of course, this has been very significant for the valuation of companies. In a discounted cash flow (DCF) valuation model, it certainly makes a dramatic difference whether one assumes, for example, falling or rising earnings for the three years ahead.

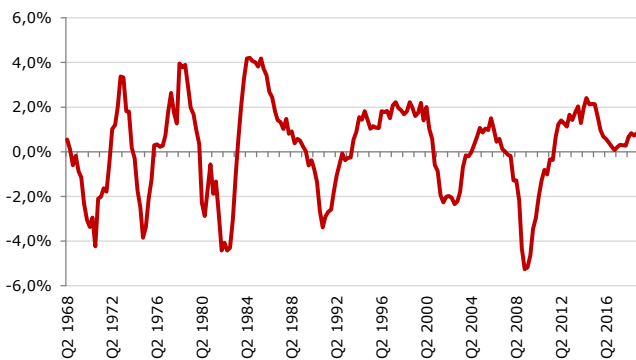
But when the business cycle becomes less and less volatile and the utilization rate accordingly exhibits declining amplitude over time, macroeconomic data also become less relevant for the analysis of capital markets. In such a situation, investors look "past" these relatively small movements and are less influenced by temporary improvement or deterioration of data. That would explain, for example, why stock markets have often developed counterintuitively relative to fundamental data in recent years. But can we actually observe this presumed decline of cyclicity? Unfortunately, this seemingly simple question is not easy to answer. That is partly due to structural breaks in the data, which make interpretations difficult. The reunification of West and East Germany is a good example of such a break. It is also difficult to analyze time series at the European level against the background of this question, since the introduction of the Single Market and the euro have caused significant structural breaks that could result in misinterpretation. Our analysis therefore focuses on the United States, where long, reliable time series without major structural breaks are available. Moreover, the United States still

# Economic Situation and Strategy

has the world's dominant economy and capital market. Cyclical impetus for the global economy still often comes from the United States, so that an analysis of US cyclicity is also relevant for the world economic trend. Unfortunately, there is no single, authoritative method for perfectly measuring the economy's utilization and cyclicity. We therefore use different methods and compare their results. Readers less interested in statistical methodology are welcome to skip the next few paragraphs.

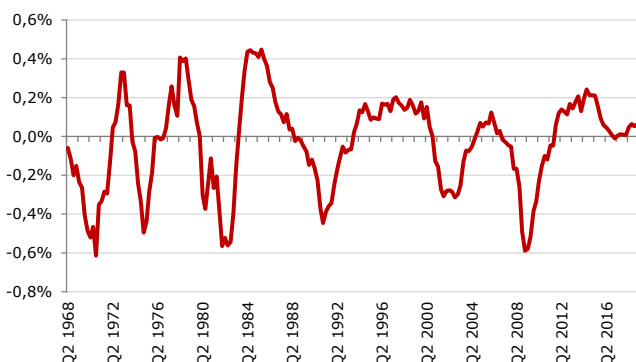
The first (and probably simplest) method consists in calculating the percentage gap between actual value creation and the historical linear trend. Doing that already reveals slightly declining cyclicity at first glance. This effect comes to light especially when what happened in 2008 (financial crisis) is classified as a special case and is therefore excluded from the analysis.

Deviation of US GDP from linear historical trend (each value is out-of-sample)



We obtain a similar result using the logarithmized value of GDP instead of actual GDP, which enables us to explain exponential growth better with a linear regression. Every value in these analyses is out of sample. That means that to calculate the trend, we have only used data that would have actually been available in real time.

Deviation of US GDP (logarithmized) from linear historical trend (each value is out-of-sample)



Alternatively, however, one could also simply look back, lay a non-linear trend over the entire GDP time series, and thus virtually describe the trend with an equation as it presents itself retrospectively from today's standpoint. The resulting deviation also suggests slightly decreasing cyclicity, but the effect cannot really be classified as significant.

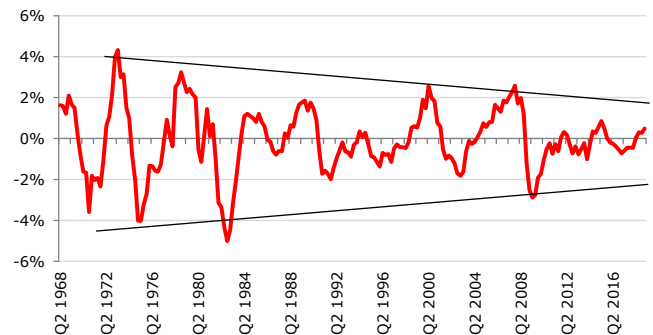
US GDP deviation from nonlinear trend (each value is in-sample)



A completely different picture emerges when we measure the GDP deviation in each case relative to a moving (centered) GDP average. We see here a dramatic decrease of cyclicity. The same is true when we perform the calculation using logarithmized GDP values.

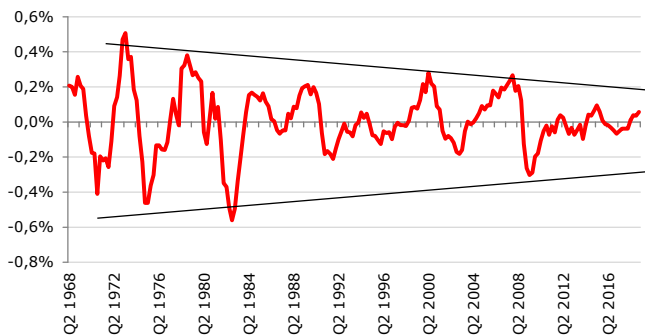
If we now lay all these calculations representing possible metrics for the deviation from trend growth over one another, we obtain a kind of meta-indicator. To make the different time series comparable and allow calculation of a meaningful average, we translated the time series into Z scores beforehand for this purpose (see second chart on page 3). The result is striking.

Deviation of US GDP from average (each value is the percentage deviation from the centred average with three years lead and trail)

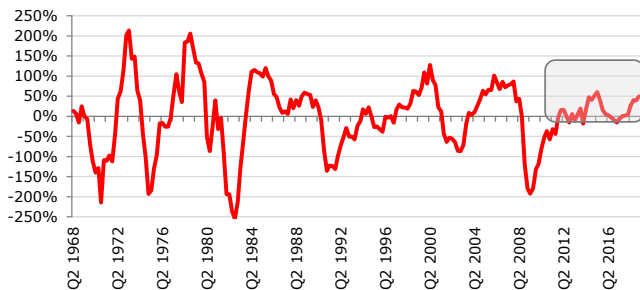


# Economic Situation and Strategy

Deviation of logarithmic US GDP from the average (each value is the percentage deviation from the centered average with three years of lead and trail)



Development of the mean value of the variants of the US cycle indicators that we have calculated (the individual indicators were previously converted to z scores to ensure comparability)



We see here that fluctuations have decreased significantly even on average across all methods (with the year 2008 again treated as a special case). In particular, the fluctuations have only been marginal since 2012. Never before has there been a period of seven years with such small fluctuations.

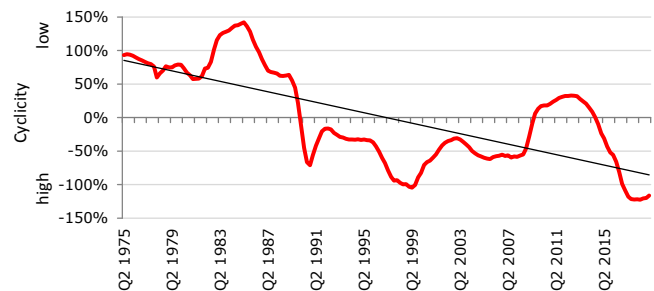
We can also get a good grasp of this mathematically by simply calculating the standard deviation of this time series over different periods. However, we need a theoretical justification for the allocation of the periods. Many economists assume that the introduction of ultra-expansive monetary policy laid the traditional business cycle to rest. In the United States, the first quantitative easing program (QE1) began in late 2008, and then the QE2 program started at the end of 2010. That suggests we should first calculate the standard deviation as the metric for cyclicity from 1968 to the end of 2008, since no quantitative easing occurred during that period. The standard deviation was 0.9 then. It dropped to 0.62 as of QE1, and to only 0.28 as of QE2.

Standard deviations of the cycle indicator in the USA depending on the time period

1968 - Beginning of Q1 end of 2008	Beginning of Q1 end of 2008 to 2019	Start of Q2 end of 2010 to 2019
90%	62%	28%

At first glance, these numbers seem to be conclusive evidence that monetary policy has a significant influence on value creation cyclicality. But possibly, this interpretation does not go far enough. If we assume, for example, that a typical business cycle lasts for seven years and calculate the standard deviation of our cycle indicator over a moving seven-year period, a relatively linear trend in the decline of cyclicality ultimately emerges more or less, with the jump from 2008 to 2012 being a result of the financial crisis and hence an exception.

Trend in the mean standard deviation of all variants of US cycle indicators that we have calculated on a rolling seven-year basis (the individual indicators were previously converted to z scores to ensure comparability)



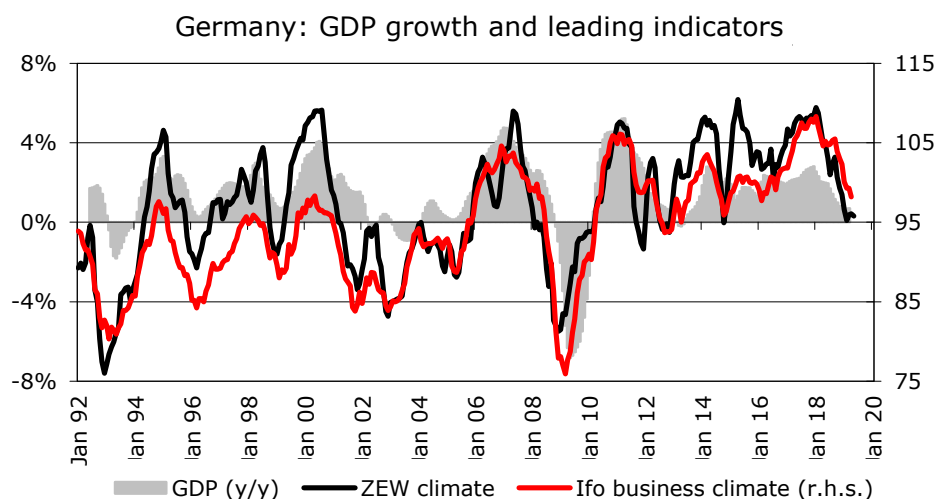
The result would suggest that in addition to expansionary monetary policy, topics like structural changes, digitalization, globalization, and possibly fiscal policy have led a reduction of cyclicality. But whatever the reason may be, the effect is so dramatic that its importance for the capital markets should not be underestimated. For, even if the business cycle is not dead, its hibernation is not likely to end very soon.

## Weekly Outlook for May 20-24, 2019

	Dec.	Jan.	Feb.	Mar.	Apr.	May	Release
DE: Producer prices, m/m	-0.4%	0.4%	-0.1%	-0.1%	0.5%		May 20
DE: Producer prices, y/y	2.7%	2.6%	2.6%	2.4%	2.5%		May 20
DE: PMI, manufacturing – flash	51.5	49.7	47.6	44.1	44.4	44.6	May 23
DE: PMI, services – flash	51.8	53.0	55.3	55.4	55.7	55.4	May 23
DE: Ifo business climate index	101.2	99.6	98.7	99.7	99.2	99.4	May 23
DE: Ifo business expectations	97.3	94.8	94	95.6	95.2	95.3	May 23
DE: Ifo current conditions	105.2	104.6	103.7	103.9	103.3	103.6	May 23
EUR19: Consumer confidence – flash	-8.3	-7.9	-7.4	-7.2	-7.9	-7.7	May 21
EUR19: PMI, manufacturing – flash	51.4	50.5	49.3	47.5	47.9	48.1	May 23
EUR19: PMI, services – flash	51.2	51.2	52.8	53.3	52.8	52.9	May 23

MMWB estimates in red

### Chart of the Week: End of Germany's growth lull?



According to preliminary data on Germany's real GDP, growth in the first quarter of 2019 came to 0.4% q/q (+0.7% y/y). The country has thus returned to a positive path after barely avoiding a technical recession with a negative growth rate of 0.2% in the third quarter and zero growth in the fourth quarter of 2018. But what prompted the stronger growth in the first quarter? As expected, domestic demand played an important role. On the one hand, personal consumption is robust in Germany thanks to rising wages and record employment and to relief measures for workers. Businesses also invested significantly more on buildings and equipment, which positively affected growth. Net exports were roughly growth-neutral, with import and exports rising

simultaneously. On the other hand, lower government spending had a braking effect on growth. But does this mean now that we can expect stronger growth for the rest of the year and should correct our growth forecast upward? The positive growth is attributable particularly to construction output, which benefited from favorable weather conditions. A slower pace in the construction sector in the second quarter is therefore likely. Continuing industrial production weakness and declining orders also argue against higher growth rates. With a renewed increase of international tensions, the threat of automobile tariffs, and stagnant leading indicators, it is thus too soon to raise our growth forecast (2019e: +0.7%).

## Market Data Overview

Stock marktes	As of	Change versus				
	17.05.2019 12:45	10.05.2019 -1 week	16.04.2019 -1 month	15.02.2019 -3 months	16.05.2018 -1 year	31.12.2018 YTD
Dow Jones	25863	-0,3%	-2,2%	-0,1%	4,4%	10,9%
S&P 500	2876	-0,2%	-1,1%	3,6%	5,7%	14,7%
Nasdaq	7898	-0,2%	-1,3%	5,7%	6,8%	19,0%
DAX	12199	1,2%	0,8%	8,0%	-6,1%	15,5%
MDAX	25721	0,9%	-0,2%	5,7%	-3,4%	19,1%
TecDAX	2859	1,5%	1,5%	10,6%	2,8%	16,7%
EuroStoxx 50	3420	1,8%	-1,2%	5,5%	-4,0%	14,0%
Stoxx 50	3134	1,8%	-0,9%	4,3%	-0,5%	13,6%
SMI (Swiss Market Index)	9621	1,6%	0,4%	4,1%	7,2%	14,1%
Nikkei 225	21250	-0,4%	-4,4%	1,7%	-6,5%	6,2%
Brasilien BOVESPA	90024	-4,5%	-4,6%	-7,7%	4,0%	2,4%
Russland RTS	1257	3,5%	0,1%	6,7%	5,6%	17,9%
Indien BSE 30	37931	1,2%	-3,4%	5,9%	7,2%	5,2%
China Shanghai Composite	2882	-1,9%	-11,4%	7,5%	-9,1%	15,6%
MSCI Welt (in €)	2126	0,6%	-0,5%	3,7%	5,7%	15,7%
MSCI Emerging Markets (in €)	1011	-1,6%	-6,4%	-1,1%	-7,6%	7,4%
<b>Bond markets</b>						
Bund-Future	166,95	70	235	48	877	341
Bobl-Future	133,56	26	87	42	269	104
Schatz-Future	112,06	6	17	19	16	12
3 Monats Euribor	-0,31	0	0	0	1	0
3M Euribor Future, Dec 2017	-0,34	-3	-3	-9	-37	0
3 Monats \$ Libor	2,53	0	-8	-16	20	-28
Fed Funds Future, Dec 2017	2,12	-6	-19	-27	-60	0
10 year US Treasuries	2,38	-7	-21	-28	-74	-30
10 year Bunds	-0,11	-6	-17	-21	-72	-35
10 year JGB	-0,05	-1	-2	-3	-11	-6
10 year Swiss Government	-0,38	4	-4	-4	-51	-14
US Treas 10Y Performance	600,87	0,4%	1,8%	2,7%	8,9%	3,5%
Bund 10Y Performance	651,55	0,4%	1,5%	1,9%	8,4%	3,9%
REX Performance Index	493,99	0,3%	0,8%	0,8%	3,2%	1,3%
US mortgage rate	0,00	0	0	0	0	0
IBOXX AA, €	0,44	-1	-8	-20	-43	-44
IBOXX BBB, €	1,34	0	-5	-40	-19	-72
ML US High Yield	6,69	1	18	-24	17	-132
JPM EMBI+, Index	838	0,3%	0,3%	1,4%	5,8%	5,9%
Convertible Bonds, Exane 25	7310	0,0%	0,6%	3,6%	-2,3%	6,0%
<b>Commodities</b>						
CRB Spot Index	413,97	0,9%	-2,7%	0,1%	-6,7%	1,2%
MG Base Metal Index	301,21	0,7%	-4,7%	-1,7%	-14,2%	2,2%
Crude oil Brent	73,09	3,1%	2,5%	10,8%	-6,6%	37,6%
Gold	1285,00	-0,2%	0,7%	-2,3%	-0,3%	0,3%
Silver	14,56	-1,7%	-2,9%	-7,0%	-10,8%	-6,1%
Aluminium	1830,75	3,0%	-0,4%	0,3%	-21,7%	-1,7%
Copper	6071,00	-0,6%	-6,2%	-2,0%	-10,7%	2,1%
Iron ore	96,13	1,1%	2,9%	8,5%	42,8%	38,9%
Freight rates Baltic Dry Index	1032	1,9%	37,8%	61,5%	-26,4%	-18,8%
<b>Currencies</b>						
EUR/ USD	1,1167	-0,6%	-1,2%	-0,8%	-5,2%	-2,5%
EUR/ GBP	0,8754	1,5%	1,1%	-0,1%	0,1%	-2,5%
EUR/ JPY	122,42	-0,7%	-3,3%	-1,6%	-5,7%	-2,7%
EUR/ CHF	1,1281	-0,9%	-0,8%	-0,5%	-4,3%	0,1%
USD/ CNY	6,9133	1,3%	3,0%	2,0%	8,5%	0,5%
USD/ JPY	109,86	-0,1%	-1,9%	-0,6%	-0,5%	0,3%
USD/ GBP	0,78	2,2%	2,4%	0,7%	5,7%	-0,1%

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