

## The W&P Perspective: It's time to bury the absurd notion of the so-called "technical recession"

Recent growth figures for both developed and emerging economies have been disappointing. Despite the persistent optimism of companies and consumers, the major economies are reporting deep and sometimes even negative rates of change in their GDP levels. Are some countries close to a recession, as some pundits would argue? When can it legitimately be said that an economy is in recession? We propose a simple rule to yield a meaningful answer to this question. // Adriel Jost, Klaus W. Wellershoff and Lêzan-Noé Calis

"Italy's in recession!" declared many economic "experts" after the publication of Italy's growth figures for the fourth quarter of 2018. Those who wanted to appear particularly sophisticated spoke of a "technical recession" after Italy's GDP fell over the past two quarters, first by -0.1 and then by -0.2 per cent. This view adheres to the definition of a recession as two or more successive quarters of negative growth.

The German economy is not doing much better. There, after a negative third quarter, fourth-quarter growth in 2018 just achieved a "Schwarze Null", or "black zero" – Germany's pet term for flat or just barely positive results. Is Italy indeed already in recession? Did Germany just miss sliding into a recession "by a hair's breadth?"

### What is a recession?

We must begin by saying that the widely cited definition of a recession as two or more consecutive quarters with negative growth rates is really not very helpful. Its explanatory limits can easily be illustrated by the example of China. The Chinese economy has grown vigorously in recent decades. From what growth rate would you say that the Chinese economy enters into recession? Does it, in fact, need to be a negative number?

Of course not! In fact, serious economists judge the question of whether an economy is in recession not simply by a single data point. Since the pioneering work of Arthur Burns and Wesley Mitchell in the 1940s, a recession is much more broadly defined. The two Americans wrote in their now-standard work on measuring business cycles:

*"A cycle consists of expansions occurring at about the same time in many economic activities, followed by similarly general recessions, contractions, and revivals which merge into the expansion phase of the next cycle."*<sup>1</sup>

Central to this definition is that many areas of economic activity must simultaneously be in an expansion or contraction mode to speak of a business cycle. At the risk of excess brevity: one statistic's decline does not make a recession.

In fact, the National Bureau of Economic Research (NBER), which is responsible for officially determining US economic inflection points, has adopted this definition, calling on a variety of economic statistics to define the various economic cycles.

This approach can be intuitively understood by asking what developments we would expect to see in different sectors of an economy in a recession, apart from contracting GDP. For example, think of the labour market. In a recession, we would expect some workers to lose their jobs. A recession should therefore be linked to rising unemployment. It is precisely this consequence that makes most people think of a recession as something bad. Or consider the production of goods in an industry. In a recession, we would expect that the capacity of the industry is no longer fully utilised. Accordingly, the NBER looks at GDP development, unemployment trends, industrial capacity utilisation and many other factors to determine whether or not the US economy is in recession.

<sup>1</sup> Burns and Mitchell (1946). Measuring business cycles, National Bureau of Economic Research.

Analysing such a wide range of statistics is admittedly specialists' endeavour, and the results may remain difficult for the broader public to interpret. This probably explains why the media, and also the financial markets, focus on GDP growth, or the lack thereof, to decide if an economy is in recession.

Fortunately, the various factors of responsible economic research, including GDP development, can be easily communicated using the simple insights of growth theory. Thanks to intensive research on long-term growth in recent decades, an empirically proven method for determining so-called trend growth has emerged. Trend growth is the growth rate that an economy can maintain sustainably, that is, a rate of growth where there is neither underemployment nor overheating and thus no increase in inflation.

### Economies differ

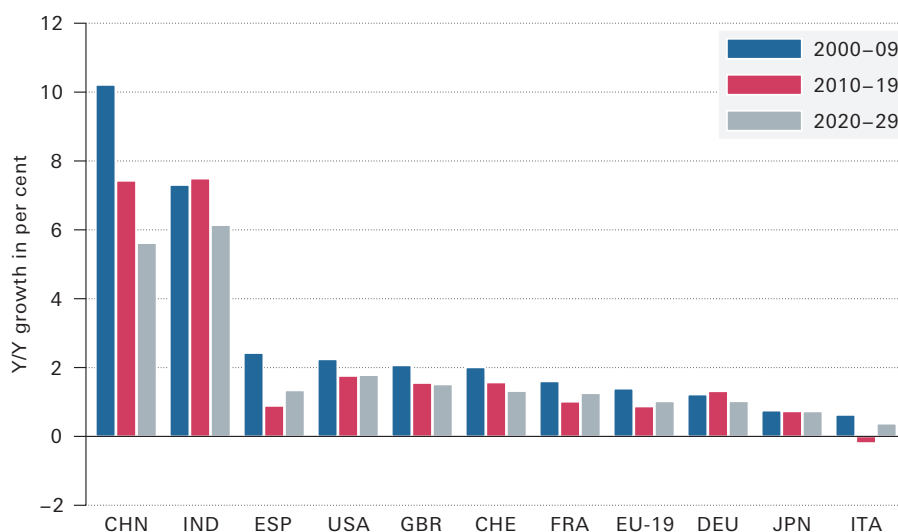
Trend growth is determined by factors like hours worked, the capacities of machinery, equipment and infrastructure, and worker productivity. Interestingly, these trends, and thus the trend growth rate itself, can be predicted far better than the growth rates of individual years. In 2010 Wellershoff & Partners' clients read our forecast for a sharp medium-term decline in China's growth, which almost exactly anticipated current GDP growth rates.

Fig. 1 presents our current estimates of trend growth in the major developed and largest emerging market economies. Unsurprisingly, we find that different economies have different trend growth rates. At the same time, all industrialised nations are experiencing lower trend growth than India or China. This is primarily due to much lower productivity growth in the higher-income economies. Put differently, countries with lower average incomes have more growth potential.

Demography also plays an important role in forecasting trend growth. Accordingly, India's population will continue to grow much faster than those of western industrialised nations for many years to come. Meanwhile China is also struggling with a shrinking population of employable people, which is a long-term consequence of its previous one-child-per-family policy. For this reason, and with India's per capita income still significantly lower, we expect the Indian economy to grow faster than the Chinese economy over the next twenty years.

Demographics also explain the difference between the trend growth rates of the United States and the Eurozone. In fact, the US population is growing about 0.6 per cent faster than Europe's. As a result, the US economy's trend growth is higher. However, per capita prosperity in these major industrial regions will likely be comparable in the coming years. To learn more about this vital topic and our views on the most attrac-

**Fig. 1: Trend growth rates**



The chart shows the average trend growth rates of various economies since 2000. Developed nations show significantly lower trend growth than India and China. Thus, we can expect these two large emerging economies to continue growing at a relatively fast pace.

Source: Penn World Tables, UN, Wellershoff & Partners

tive potential sales markets, you will want to read our updated trend growth estimates, to be published around mid-year in our *Critical Perspectives* series.

### Trend growth as a cornerstone of analysing business cycles

As a tool for cyclical analysis, trend expectations allow for some very interesting inferences to be made. Thus, we note that growth above trend is usually associated with declining unemployment and increasing capacity utilisation. And vice versa, growth rates below trend also leave their negative mark on many other statistics of economic development.

Recessions are thus multifaceted events and should not be defined simply by the zero-growth threshold. Rather, it is the deviation of current growth from the trend growth levels that needs to be assessed. The key question is, therefore, what degree of difference between current growth and trend growth rates justifies declaring that an economy has entered into a recession? A simple statistical observation can help us here. In fact, we know that, over the long term across different economies, the ratio of expansionary to recessionary phases is roughly 5:1.<sup>2</sup> In other words, over the long-

2 Following the findings of the Economic Cycle Research Institute (ECRI), since the Second World War, national cycles of economic expansion run 5.7 times as long as recessionary periods

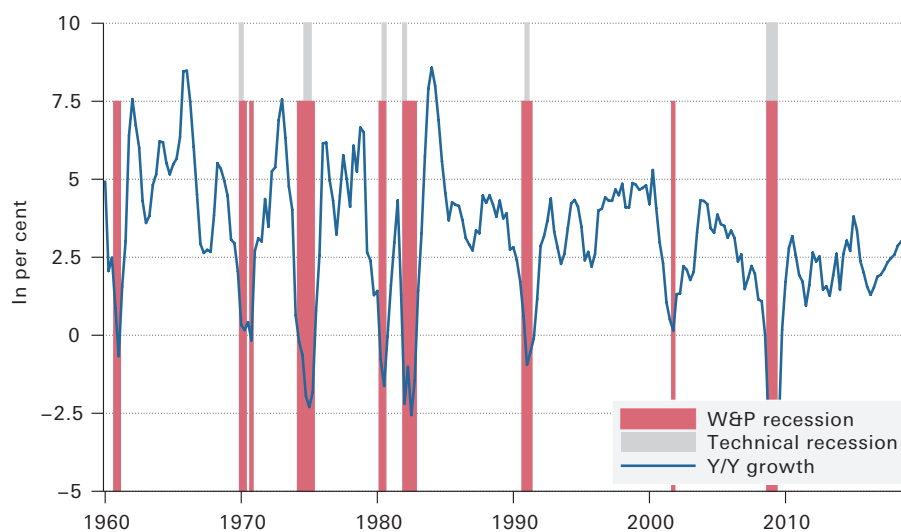
term, economies are in recession about one-sixth of the time.

Assuming that growth rates follow a normal statistical distribution, this relationship can be reformulated into a very simple rule. Namely, with such distributions, approximately a sixth of all observations are below a value that is one standard deviation of the distribution below its mean. At the same time, the growth rates of the economies fluctuate around their respective trend growth rates, which thus represents the average of the distribution of the growth rates. This allows us to formulate a simple rule of thumb: an economy is in recession when its growth rate is one standard deviation below its trend growth value. More precisely, we believe a recession can be declared when an economy's average annualised growth over the past two quarters and its current annual growth rate are lower than our threshold value.

Of course, such an approach is not scientific. For that level of rigour, our academic colleagues would have to study the actual distribution of growth rates much more closely. This would reveal that the trend growth rate, and thus the assumed mean of the distribution is also not constant. This would require investigating

in the United States, Japan, Germany, the United Kingdom, France, Italy and Switzerland. ECRI (2019). Business Cycle Peak and Trough Dates.

Fig. 2: Recessions in the US economy, according to the "technical recession rule"



The chart shows the annual growth rates of the US economy as well as the recessions according to the "technical recession" rule and according to our trend-growth deviation rule, presented in this report. The "technical recession" rule failed to identify the recessions of 1960 and 2001.

Source: Thomson Reuters Datastream, Penn World Tables, UN, Wellershoff & Partners

whether the range of variation of past growth really is a good yardstick for calculating the threshold value today. In the end, this effort would lead to a much more sophisticated method of analysis.

But the goal of our rule of thumb is not to provide an ironclad answer to the question of when an economy is in recession. Ultimately, in our view, no single indicator is likely to offer a reliable answer to that question anyway. We are merely proposing a smarter, still timely alternative to the patently deficient definition of a recession as two or more quarters of negative growth.

### “Truth is what works”

Does our proposed rule of thumb really work? Only if it enables reasonable, pragmatic statements to be made. To determine its usefulness, Fig. 2 shows the annual growth of the United States. The red areas are the quarters for which our rule of thumb indicates a recession in the US economy. The grey areas show the results of the “technical recession” rule.

In fact, our definition captures the sequences of recessions quite well. Even though, in one case, the “technical recession” rule indicated a recession earlier than our rule did, it appears much less well suited to determining the duration of recessions. In particular, we would point out that the “technical” approach utterly missed the recessions of 1960 and 2001.

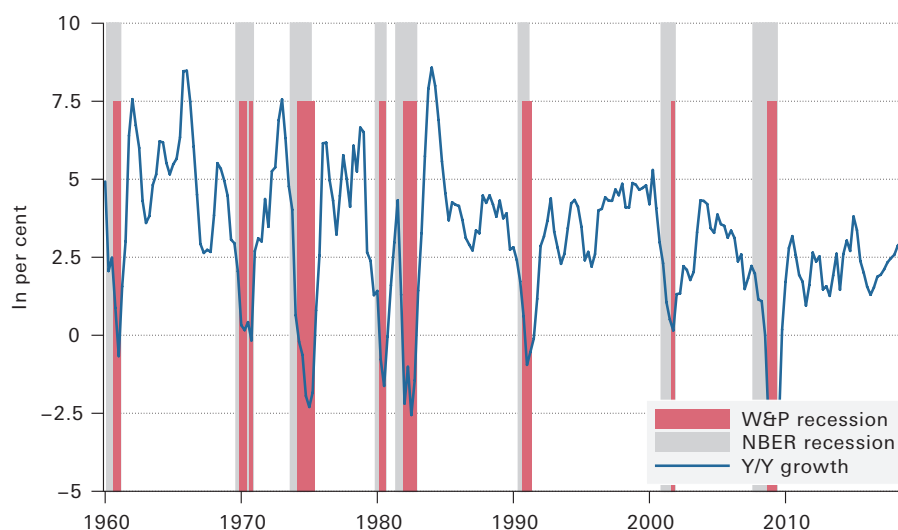
Fig. 3 compares the determinations of our rule with the NBER’s data. Obviously, although our method does well to capture the development of the respective recessions, it seems to lag in recognising the actual onset of the recessions. With the exceptions of the recessions of 1981 and 2008, this is because the NBER uses monthly data, thereby qualifying quarters as recessionary only in hindsight when the recession did not take place from the first month of a quarter.

Nevertheless, our rule of thumb is attractive for the US economy. This is because the NBER typically determines that a recession has begun with a significant delay and often, based on its many sources of data, this is after the recession has already ended. Our goal here is to derive the results of such an investigation as soon as possible and on the basis of just one number. Accordingly, such a simplified rule is even more attractive when applied to countries where less effort is made to determine the economic cycles than is the case in the United States.

### Where do we stand today?

We attempted to make such a determination for a number of countries based on current data. Table 1 shows the trend growth rates, the current growth rates and the threshold rate that, according to our rule, indicates an economy in recession. In addition, the last two

**Fig. 3: Recessions in the US economy, according to NBER’s definition**



The chart shows the annual growth rate of the US economy as well as its recessions according to the NBER’s approach and our trend-growth deviation rule, presented in this report. As the chart shows, our recession threshold is crossed a bit later than the NBER’s, but since we focus on just one factor our rule yields results well in advance of the NBER’s more complex, but inevitably delayed, evaluation. In sum, our rule provides a more timely recognition of recessions.

Source: Thomson Reuters Datastream, NBER, Penn World Tables, UN, Wellershoff & Partners

columns show whether a recession in the respective economies can be identified based on the “technical” rule and on our trend-growth deviation rule.

Let’s first look at our threshold rates. It is notable that the threshold rate is below zero for all the industrial nations shown. This is no surprise considering the falling trend growth rates of recent years. Even in the United States, where trend growth is still close to 2 per cent, the threshold rate is currently already at -0.5 per cent. In the Eurozone, we would mark the onset of a recession at -0.6 per cent due to its demographically induced lower trend growth rate. The same threshold applies to Germany, which is thus further away from a recession than the “technical recession” advocates would have us believe.

In Italy, where we estimate that trend growth is barely 0.4 per cent, the GDP must fall at an annualised rate of 1.7 per cent before we can talk about a real recession. That may be a surprising value to some observ-

ers. In fact, however, we see that in the fourth quarter of 2018, despite a rate of growth slightly below trend and even below zero at year-end, unemployment has declined. Thus, no forecasts should be aired on the further development of the Italian economy. All we want to say is that the Italian recession bemoaned by the advocates of the “technical” point of view is probably just a phantom.

And what about Switzerland? After a decline of 0.3 per cent in the third quarter, the Swiss economy grew by 0.2 per cent in the final quarter of 2018, according to preliminary estimates. However, even if Swiss growth had been flat or slightly negative, there should have been no talk of a Swiss recession today because the threshold for assessing growth is the same for Switzerland as it is for the US, -0.3 per cent.

Let’s now turn to emerging markets. Hardly any reliable quarterly growth rates are available for some emerging economies (China especially). We therefore

**Table 1: Overview of current cyclical situations**

	2018	Trend	Threshold	Y/Y growth	Q/Q growth (ann.)	Techn. rec.	W&P rec.
Switzerland	Q3	1.5%	-0.3%	2.1%	-1.0%	No	No
	Q4	1.5%	-0.3%	1.5%	0.7%	No	No
United States	Q3	2.0%	-0.5%	3.0%	3.4%	No	No
	Q4	2.0%	-0.5%	3.1%	2.6%	No	No
Eurozone	Q3	1.2%	-0.6%	1.6%	0.6%	No	No
	Q4	1.2%	-0.6%	1.2%	0.8%	No	No
Germany	Q3	1.4%	-0.6%	1.2%	-0.8%	No	No
	Q4	1.4%	-0.6%	0.6%	0.1%	No	No
Italy	Q3	0.4%	-1.8%	0.6%	-0.5%	No	No
	Q4	0.4%	-1.7%	0.1%	-0.9%	Yes	No
Spain	Q3	1.6%	-0.8%	2.4%	2.2%	No	No
	Q4	1.6%	-0.8%	2.4%	2.8%	No	No
France	Q3	1.3%	-1.0%	1.3%	1.0%	No	No
	Q4	1.3%	-1.0%	0.9%	1.0%	No	No
United Kingdom	Q3	1.8%	-0.5%	1.6%	2.5%	No	No
	Q4	1.8%	-0.5%	1.3%	0.7%	No	No
Japan	Q3	0.8%	-1.7%	0.1%	-2.6%	No	No
	Q4	0.8%	-1.7%	0.0%	1.4%	No	No
China	Q3	6.1%	3.9%	6.2%	-	-	No
	Q4	6.0%	3.9%	6.1%	-	-	No
India	Q3	7.1%	4.8%	7.2%	-	-	No
	Q4	7.1%	4.7%	-	-	-	No

Source: Thomson Reuters Datastream, Penn World Tables, UN, Wellershoff & Partners

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have to rely on annual growth rates to check how our rule applies. And for China, annual growth rates are also dubious. That's why we use our proprietary W&P GDP Growth Stat for China. As we said at the start, attempting to apply the zero-growth threshold to China simply does not make sense. According to our trend-growth rule, China's annual growth would have to dip below 3.9 per cent in order to declare a recession. Despite the current weakness of the Chinese economy, we are still a long way from that low level.

### **Final thoughts**

With this note we want to advance the discussion about economic developments and help these discussions become more objective. We earnestly hope that the definition of a recession as a phase of two or more consecutive negative growth quarters can finally be laid to rest. Instead, we suggest that judging economic developments should take into account the very different trend growth rates of individual economies. In other words, the Chinese economy would show signs of recession at very different rates of growth than would the Italian economy. We propose that the term recession should only enter the discussion when an economy's current growth is more than one standard deviation below its trend growth – and not simply when the zero-growth threshold has been reached.

With our trend-growth deviation rule we do not presume to forecast the development of the global economy. But we do assert that, taking our definition as a benchmark, the current data indicates that the global economy is currently far from a recession. This may seem like a modest achievement. Nevertheless, we believe that in a time of growing uncertainty like today, it is worthwhile not only to speculate about the future, but also to endeavour to describe the present as accurately as possible.

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